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Journal
OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION

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Convention Preview

Joint Pan American-AVMA Meeting, Kansas City, August 23-27, 1959

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Vol. 135 July 1, 1959 No. 1

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Correspondence

One of our members has received the following letter from a well-known German veterinarian.

Sept. 9, 1958

Dr. Robert B. McClelland
Buffalo, New York

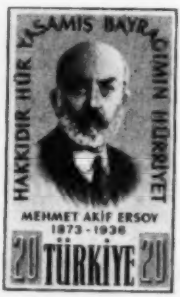
Dear Colleague:

With respect to your article on veterinary philately in the April 15, 1958, issue of the J.A.V.M.A., there has now been issued, in Turkey, a stamp featuring a veterinarian.

On the occasion of its issuance, I published the following in the No. 7, 1957, issue of *Berliner und Münchener Tierärztliche Wochenschrift:*

It is one of the greatest philatelistic rarities that a veterinarian is pictured on a stamp. France honored three great veterinarians by printing their pictures on a stamp issued in 1951. The pictures of Boulet, Chobaud and Nocard are shown under the motto, "La France, berceau de la médicine vétérinaire—Lyon-Alfort-Toulouse" (France, the cradle of veterinary medicine).

French stamp honoring veterinarians Boulet, Chobaud, and Nocard.



Stamp portraying Mehmet Akif Ersoy, veterinarian, who wrote the Turkish national anthem.

Centennial stamp commemorating the founding of the veterinary college in Copenhagen, Denmark.

In December, 1956, three stamps issued in Turkey portrayed the veterinarian, Mehmet Akif Ersoy (1873-1936), who studied and practiced as a veterinarian at the veterinary college in Istanbul. The stamp honors his writing the Turkish national anthem. The poem, the first line of which frames his portrait on the stamp, was written in 1921 during the war of independence between Turkey and Greece. Later on, Kemal Atatürk made this patriotic poem the national anthem.

Another stamp of veterinary interest was issued this month in Denmark on the occasion of the anniversary of the agricultural and veterinary college in Copenhagen.

s/PROF. DR. KURT WAGENER
Direktor des Hygienischen Instituts
der Tierärztlichen Hochschule
Hannover, Germany

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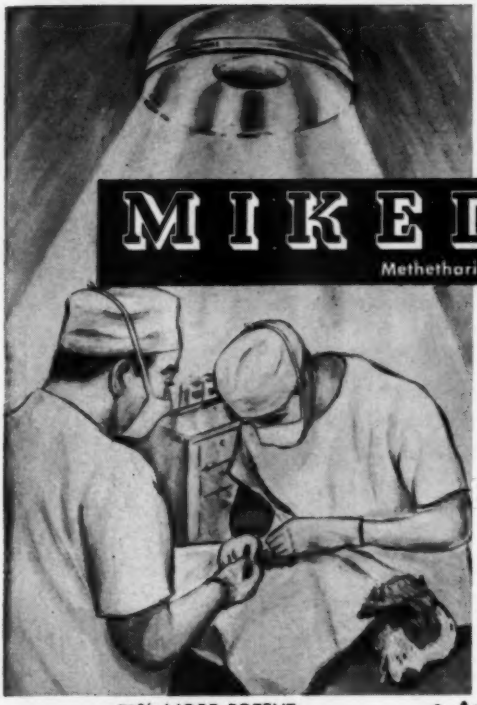

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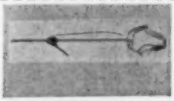

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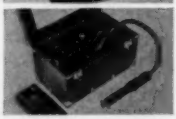

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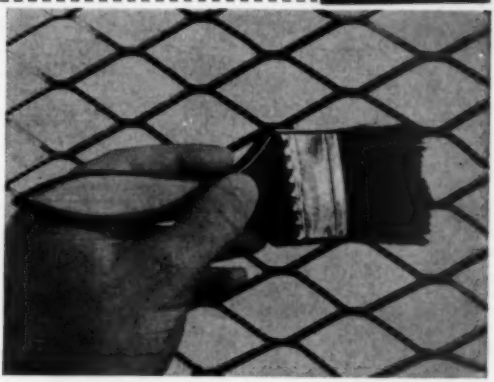

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news from washington . . .

FROM THE AVMA WASHINGTON OFFICE

Appropriations for Animal Parasites Humane Slaughter Research Pest Control Poultry Inspection

The Senate passed with amendments the Department of Agriculture appropriations bill, H.R. 7175 on June 3, reported out May 28 by Senate Appropriation Committee. Among the amendments pertaining to ARS: research activities, $70,479,390. Included in amendments are $500,000 for accelerating work on livestock entomology, and restoration of $200,000 of $250,000 requested in the budget to initiate humane slaughter research. Plant, animal disease, and pest control, $51,050,600, an increase of $2,500,000 recommended by the Senate committee principally for brucellosis eradication, providing a total of $17,500,000 instead of $15 million as in the budget and the House-passed bill. Meat inspection, $21,324,000. AMS, poultry inspection, $10,497,000. The bill now goes to conference of managers by Senate and House before final action by both Houses (see JOURNAL, June 15, 1959, adv. p. 12 regarding House-passed H.R. 7175).

Disability Retirement

H.R. 7385, Rep. Morris (D., N.M.) to amend Civil Service Retirement Act to credit military service for purpose of disability retirement, and authorize disability retirement benefits if disabled because of leukemia prior to or during government employment.

Wildlife Disease Laboratory at Colorado University

H.R. 7455, 7461, 7471, 7477, by representatives of Colorado Aspinall, Chenoweth, Johnson, and Rogers respectively; S. 2086, Senators Allot and Carroll, Colorado (identical bills), to establish a National Wildlife Disease Laboratory at Colorado State University. The congressmen stressed the need for this research facility so that studies can be made of wildlife diseases and their interrelationship to man, livestock, and poultry.

Yachts and Night Clubs not Deductible

S. 2040, Senators Clark, Douglas, Proxmire, McCarthy, Muskie, Moss, and McGee, amend the Internal Revenue Code to prohibit deduction of certain expenditures as trade or business expenses, such as entertainment at night clubs, theaters, etc; gifts; traveling expenses to conventions outside U.S.

Ronnel New Insecticide for Livestock Pests

U.S.D.A. has added ronnel, an organic phosphorus chemical, to the list of insecticides recommended for the control of several livestock pests. Ronnel is not recommended for dairy cattle or milk goats as a spray or bolus because of residues left in milk.

Drs. Miller and Todd Honored

Dr. Don Miller, ARS, Phoenix, Ariz., and Dr. Frank A. Todd, ARS, Washington, D.C., were presented Superior Service Awards by Secretary of Agriculture Ezra Taft Benson at the Honor Awards Ceremony, May 26, 1959, in Washington, D.C.

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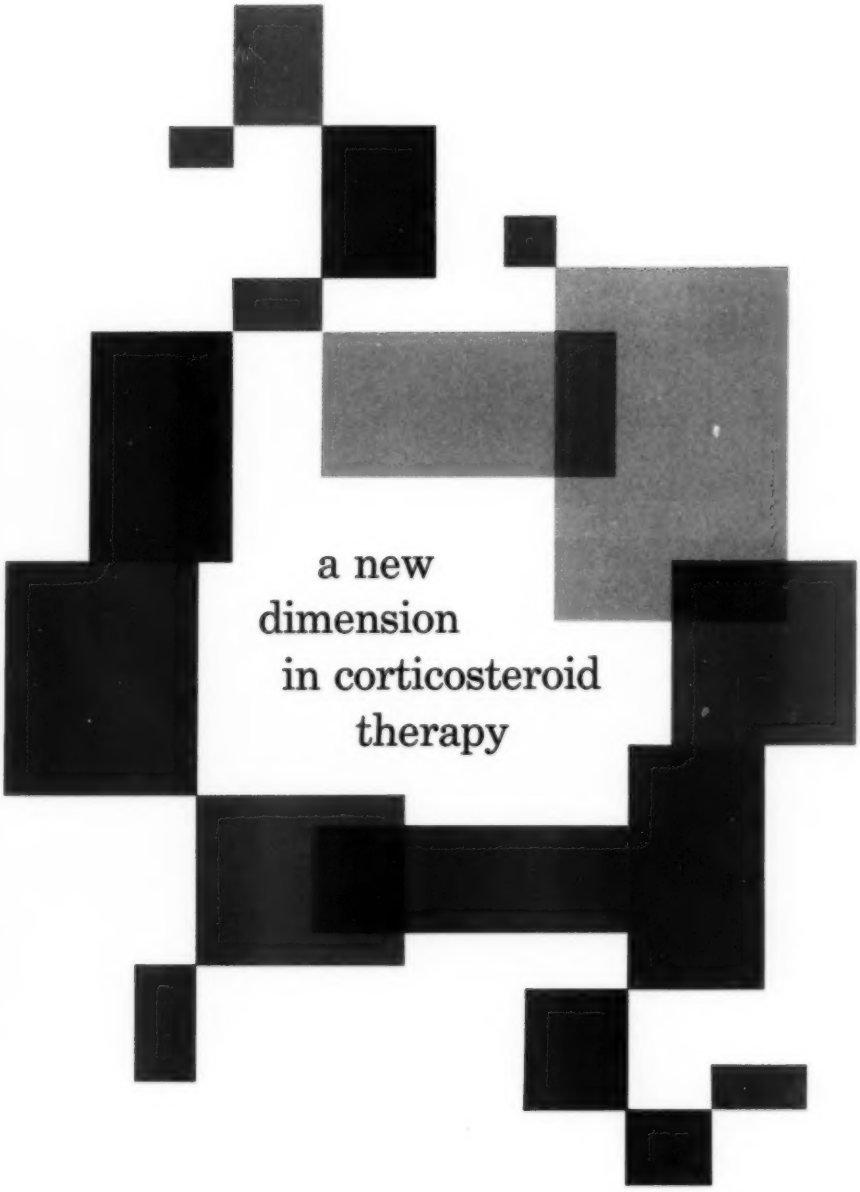
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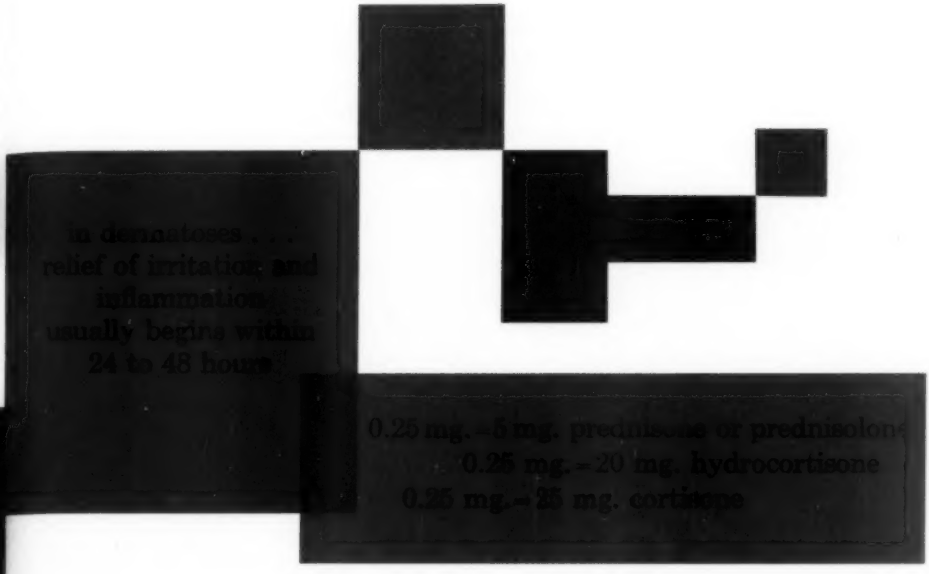
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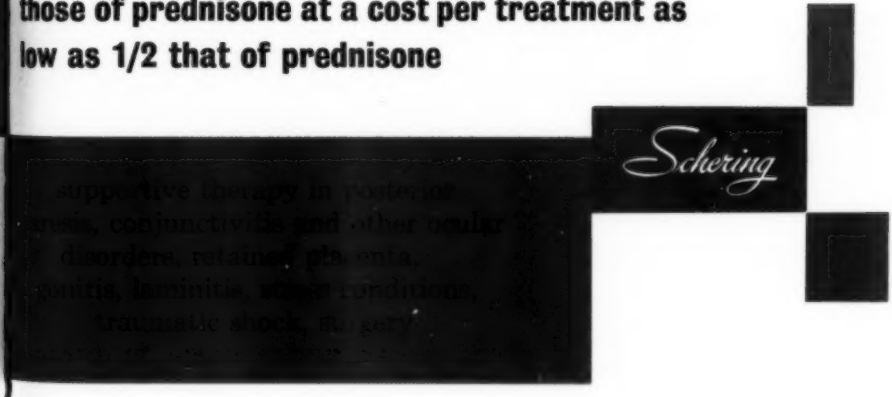

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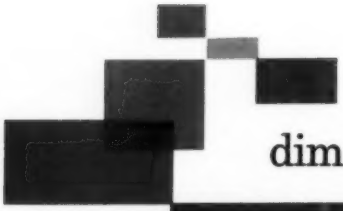

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arthritic conditions	6	4	1	11
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SMALL ANIMALS				
dermatoses	18	4	1	23
arthritic conditions	14	1	1	16
supportive therapy	15	0	5	20
TOTAL	248	21	12	281

Azium

AZIUM is available to graduate veterinarians only. Further details about this important advance in corticosteroid therapy are being mailed to members of the profession. Further information can also be obtained from Schering Professional Representatives.

*Reports to Division of Veterinary Clinical Research, Schering Corporation.
AZIUM—T. M.— brand of dexamethasone veterinary.

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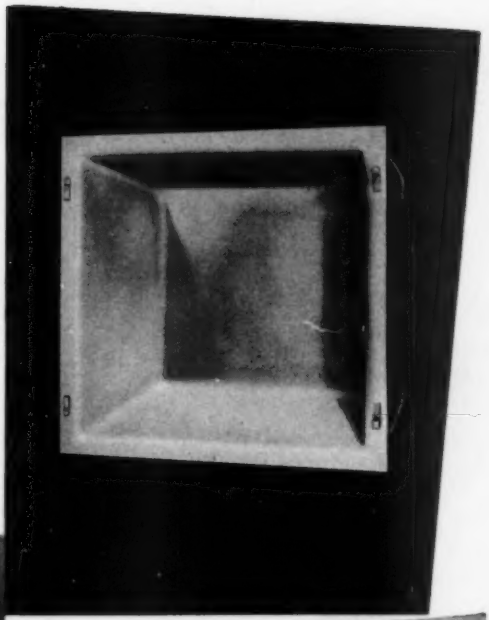

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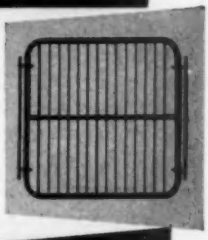
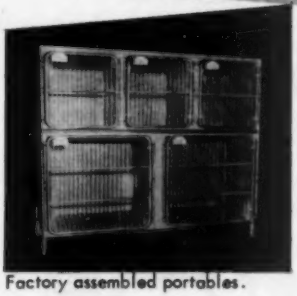
Life-time Aluminum doors with positive hardware... door lifts off cage for ease of cleaning. Your door installation time is only minutes, simply place door in factory mounted catches and hinges.





Factory assembled portables.

With six years experience in supplying GLASS-PLASTIC cages to the Veterinary profession KIRSCHNER has developed manufacturing processes that gives a superior product and also allows a lower cost to our customers.

Fourteen cage sizes... makes it possible to fit cages into practically any given area

Molded seamless construction

All corners rounded for ease of cleaning

Stain and scratch resistant and chip proof

Warm to the touch

Choice of built-in floor design... front slope, back slope or flat.

write dept. C-3 for literature and prices

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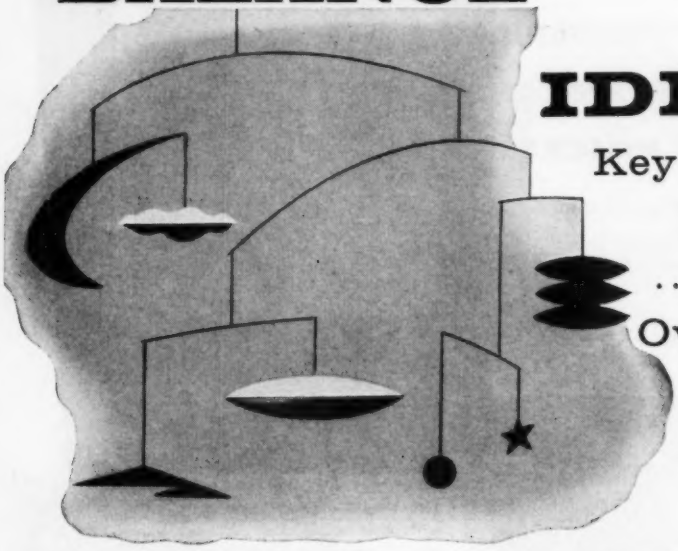
TOTAL BALANCE



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Key to Complete Nutrition ...Without Overfeeding!

While the nutritive requirements of dogs are well established, dog foods must do more than supply the known essentials. These essentials must be balanced. Imbalance due to excesses, as well as deficiencies, result in improper development and poor health. IDEAL DOG FOOD supplies all nutrients in scientifically balanced proportions. With Ideal it is not necessary to overfeed in order to satisfy the dog's requirements.

IDEAL DOG FOOD contains properly balanced proportions of:

1. **PROTEINS** — biologically adequate for growth and tissue repair—from Government Inspected meat by-products and selected vegetable sources.
2. **CALORIES** — adequate for efficient utilization of nutrients.
3. **CARBOHYDRATES**—for rapid conversion into energy—from soy and barley.
4. **FATS**—animal, fish, and vegetable for sustained energy and improved coat.
5. **VITAMINS** — for optimum well-being (A, B Complex, D and E from meat by-products, carrots, cod liver oil, and wheat germ).
6. **MINERALS**—calcium, phosphorus, and trace elements for sound body structure. Iron oxide for hemoglobin and erythrocyte formation.
7. **FLAVOR** — dogs and cats relish Ideal day after day.

A steady diet of IDEAL DOG FOOD maintains good health and promotes normal growth processes.

Prescribe IDEAL routinely for the home fed pet, for the hospitalized dog or cat, and for the "boarder."

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Complete remissions in 37 of 38 dogs[1]

FURADEX "... shortened the duration of diarrhea in comparison with previously used drugs, and in most cases produced an apparent complete recovery . . . (The diarrhea) generally ceased in 2 to 7 days without any side effect due to medication."[2]

Containing FURACIN® (brand of nitrofurazone) in an excipient of dextrose for peroral therapy, FURADEX is achieving striking results in bacterial and nonspecific diarrheas and in diarrheas associated with other diseases such as distemper and hepatitis. FURADEX has the advantage of being highly palatable to dogs, which facilitates treatment,[1,2] and is a point of superiority over other preparations.

SUPPLIED: 50 mg. scored ORA-BOLS, bottle of 100.

REFERENCES: 1. Pollock, S.: Control of Nonspecific and Specific Enteritis in the Dog; read at the First Regional Conference on the Nitrofurans in Veterinary Medicine, Wilmington, Delaware (June 5, 1958). 2. Fisher, G. W.: Oral Use of Furadex in Canine Diarrhea, N. A. Vet. 39:133-134 (Mar. 15) 1958.

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ANNOUNCING a new book and other items of interest to Doctors of Veterinary Medicine having small animal practice... from ALCON LABORATORIES, INC.

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along with a glossary of terms used in Ophthalmology, and a section on Topical Ocular Therapeutics.

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Vol. 135 — July 1, 1959 — No. 1

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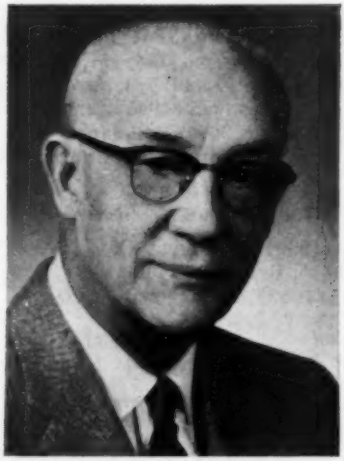
The Kansas City Meeting

A Message from President Rebrassier

As President of the American Veterinary Medical Association, permit me to extend to you and your families a cordial invitation to attend our Ninety-Sixth Annual Meeting at Kansas City, Missouri, in August.

This year we will meet jointly with the Pan-American Congress of Veterinary Medicine. Two previous congresses have been held —the first in Lima, Peru, in 1951 and the second in Sao Paulo, Brazil in 1954. As hosts to the Third Pan-American Congress, we are looking forward to this opportunity to become better acquainted with our inter - American colleagues.



President R. E. Rebrassier

The AVMA has met in Kansas City on three previous occasions—in 1907, 1917, and in 1931. During the 28 years since our last visit, our profession has undergone tremendous changes as has the world around us.

Annual meetings have also changed. This year, nearly 100 program participants will present papers on the very latest scientific subjects. Closed-circuit television will be used to present surgical and clinical demonstrations. The booths of scientific and commercial exhibits permit you to quickly view the latest in research and development of the products you use in your daily practices. Convention opportunities for entertainment and visiting with old friends have not changed greatly over the years, and will again be available.

I wish to call your attention to the fact that it is at the annual meeting that our business matters are transacted and Association policy is determined.

A significant amount of work has been carried out by our Association and its Councils, Executive Board, headquarters office, and individual staff members, in the last ten months.

Too often, in my opinion, AVMA members are not aware of the accomplishments and current projects of their Association. For this reason, I would urge all members to take an active interest in the AVMA House of Delegates' meeting being held August 21-22, immediately prior to the general convention opening Sunday, 23 August. The House of Delegates' meeting is open to all interested members.

The Committee on Local Arrangements has worked hard to prepare for you a convention that will contribute to your education, professional attainment, and personal pleasure. Do make every effort to attend our Ninety-Sixth Annual Meeting and participate in the Third Pan-American Congress of Veterinary Medicine in Kansas City, Missouri.

AVMA Officers, 1958-1959

President—R. E. Rebrassier, Columbus, Ohio.
President-Elect—S. F. Scheidy, Bryn Mawr, Pa.
Vice President—Forrest L. Hart, Hiawatha, Kan.
Executive Secretary—H. E. Kingman, Jr., Chicago, Ill.
Treasurer—J. G. Hardenbergh, Chicago, Ill.

Executive Board

(Year in which term expires is shown in parentheses)

Chairman—Dan J. Anderson (1961), Fort Worth, Texas.
District I—Myron G. Fincher (1962), Ithaca, N. Y.
District II—Mark W. Allam (1963), Philadelphia, Pa.
District III—McKenzie Heath (1959), Auburn, Ala.
Districa IV—Wade O. Brinker (1959), East Lansing, Mich.
District V—E. A. Woelffer (1963), Oconomowoc, Wis.
District VI—F. B. Young (1960), Waukee, Iowa.
District VII—William F. Irwin (1964), Tulsa, Okla.
District VIII—Dan J. Anderson (1961), Fort Worth, Texas.
District IX—Vyrle D. Stauffer (1964), Arvada, Colo.
District X—Joseph M. Arburua (1961), San Francisco, Calif.
District XI—E. C. Stone (1960), Pullman, Wash.
District XII—J. A. Henderson (1962), Guelph, Ont.

EX OFFICIO MEMBERS OF THE EXECUTIVE BOARD

R. E. Rebrassier (1960), Columbus, Ohio.
S. F. Scheidy (1961), Bryn Mawr, Pa.
W. W. Armistead (1959), East Lansing, Mich.

Board of Governors

Dan J. Anderson, *Chairman;* R. E. Rebrassier, S. F. Scheidy.

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A. E. Coombs, Maine.
Niel W. Pieper, Connecticut.
J. O. Knowles, Florida.
C. D. Lee, Iowa.
A. P. Schneider, Idaho.
Elmer W. Young, Washington, D. C.

House of Delegates

(As of May 16, 1959)

	DELEGATE	*ALTERNATE*
Alabama	W. R. Cryar	J. R. Dunlap
Arizona	Keith Lassen	Ned W. Rokey
Arkansas	William L. Thomas	Orval H. Meinecke
California	Charles J. Parshall	Fred B. Pulling, Jr.
Colorado	Francis T. Candlin	Harold J. Hill
Connecticut	Niel W. Pieper	Irving R. Vail
District of Columbia	C. D. Van Houweling	J. R. Currey
Delaware	Clarence A. Woodhouse	Morris S. Cover
Florida	Jack O. Knowles	Karl R. Owens
Georgia	C. C. Von Gremp	Thomas J. Jones
Hawaii	G. C. Folger	.....
Idaho	Arthur P. Schneider	J. W. Bailey
Illinois	A. G. Misener	C. M. Rodgers
Indiana	F. R. Booth	R. W. Worley
Iowa	C. D. Lee	Frank J. Linn
Kansas	Marvin J. Twiehaus	F. L. Hart
Kentucky	H. A. Gray	Tom S. Maddox
Louisiana	W. T. Oglesby	R. B. Lank
Maine	Alfred E. Coombs	F. Langdon Davis
Maryland		
Massachusetts	Charles DeVarennes	Paul Granholm
Michigan	S. R. Kelly	Richard Pearce
Minnesota	C. H. Wetter	R. Leland West
Mississippi	Andy Crawford	J. V. Duckworth
Missouri	Paul L. Spencer	O. E. Ellis
Montana	Jay H. Newhall	A. F. Hayes
Nebraska	E. W. Peck	Clair M. Hibbs
Nevada	W. F. Fisher	John L. O'Hara
New Hampshire	Frederick Stevens	Clarence Bent
New Jersey	John R. McCoy	Robert Shomer
New Mexico	O. J. Rollag	.....
New York	Harry G. Hodges	Clifford H. Hoppenstedt
North Carolina	A. A. Husman	Martin P. Hines
North Dakota	D. F. Eveleth	Delbert D. Clark
Ohio	A. G. Madden	Berlin W. Kagy
Oklahoma	Lewis H. Moe	J. D. Savage
Oregon	C. A. Bjork	A. W. Eivers
Pennsylvania	Raymond C. Snyder	J. Robert Brown
Rhode Island	James W. Armstrong	George Dillenbeck
South Carolina	Moore R. Blackstock	B. C. McLean
South Dakota	D. L. Cotton	John Noordsy
Tennesse	H. H. Morgan	E. M. Spence
Texas	Paul B. Blunt	Horace Barron
Utah	Paul V. Christofferson	.....
Vermont	Donald F. Icken	A. E. Janawicz
Virginia	O. F. Foley	O. L. Boyd
Washington	John D. Stevens	George Mank
West Virginia	Victor H. Miller	Harry J. Fallon
Wisconsin	D. E. Kelly	.....
Wyoming	P. E. Madsen	G. H. Good
Air Force	Robert R. Miller	Lloyd J. Neurauter
Army	Elmer W. Young	George F. Dixon
NAFV*	L. T. Hopkins	E. E. Saulmon
Canal Zone	Willys E. Lord	Kenneth Zimmerman
Puerto Rico	Herbert R. Gomez	Carlos J. Cardona
Alberta	J. G. Anderson	J. E. Rattray
British Columbia	D. A. Perry	H. L. Bryson
Manitoba		
New Brunswick	L. E. McQuinn	
Nova Scotia	K. W. Trenholm	R. W. Kennedy
Ontario	W. R. Mitchell	
Quebec	Laurent Choquette	Roland Filion
Saskatchewan		
Cuba		

*National Association of Federal Veterinarians.

Executive and Legislative Sessions

Hotel Muehlebach

Tuesday, August 18

9:00 a.m. Board of Governors—*Parlor B.*
8:00 p.m. Executive Board Reference Committee A—*Parlor A.*
8:00 p.m. Executive Board Reference Committee B—*Parlor B.*
8:00 p.m. Executive Board Reference Committee C—*Parlor C.*

Wednesday, August 19

9:00 a.m. Executive Board, first session—*Parlor A.*
1:30 p.m. Executive Board, second session—*Parlor A.*
8:00 p.m. Executive Board, third session—*Parlor A.*

Thursday, August 20

9:00 a.m. Executive Board, fourth session—*Parlor A.*
1:00 p.m. Advisory Committee to the House of Delegates—*Parlor C.*
1:30 p.m. Board of Governors—*Parlor B.*

Friday, August 21

9:00 a.m. Advisory Committee to the House of Delegates—*Parlor C.*
10:00 a.m. Directing Council, Pan American Congress—*Room 364.*
1:30 p.m. House of Delegates, first session—*Colonial Ballroom.*
4:00 p.m. House Reference Committee No. 1 *(See Bulletin Board for*
House Reference Committee No. 2 *Meeting Room Numbers)*
House Reference Committee No. 3
House Reference Committee No. 4
House Reference Committee No. 5
House Reference Committee No. 6
House Reference Committee No. 7

(House Reference Committees will meet on Saturday morning, if necessary.)

Saturday, August 22

10:00 a.m. Directing Council, Pan American Congress—*Room 364.*
10:00 a.m. House of Delegates, second session—*Colonial Ballroom.*
2:00 p.m. House of Delegates, third session—*Colonial Ballroom.*

Thursday, August 27

12:30 p.m. Executive Board—*Music Room.*

Agenda—House of Delegates

Colonial Room, Hotel Muehlebach, Kansas City

First Session—1:30 p.m., Friday, August 21.
Second Session—10:00 a.m., Saturday, August 22.
Third Session—1:30 p.m., Saturday, August 22.

Order of Business

Presiding: President-Elect S. F. Scheidy.

Call to Order.

Roll Call.

1. Presentation of Minutes—1958 Session.
2. President's Address—R. E. Rebrassier.
3. Report of House Advisory Committee (acting as reference committee on Rules and Procedures).
4. Proposals for Honorary Membership.
5. Proposals for Affiliate Membership.
6. Introduction of Guests.
7. Reports of Officers:
   a. Report of Treasurer—J. G. Hardenbergh.
   b. Report of Executive Secretary—H. E. Kingman, Jr.
8. Report of Executive Board—D. J. Anderson, *Chairman.*
9. Reports of Council:
   a. Judicial Council.
   b. Council on Education.
   c. Council on Research.
   d. Council on Veterinary Service.
   e. Council on Biological and Therapeutic Agents.
   f. Council on Public Health and Regulatory Veterinary Medicine.
10. Introduction of Resolutions.
11. Amendments to Constitution and Bylaws.
12. Nomination of Officers.
13. Election of Council and House Committee Members.
14. Action on Proposals for Affiliate and Honorary Members.
15. New Business:
    a. Report of Reference Committees.
       1) Reports of Officers.
       2) Public Relations and Veterinary Service.
       3) Veterinary Education.
       4) Internal Affairs.
       5) Legislation.
       6) Veterinary Military Affairs and Civil Defense.
       7) Miscellaneous matters.
    b. Invitations for Annual Convention.
    c. Other New Business.

Adjournment.

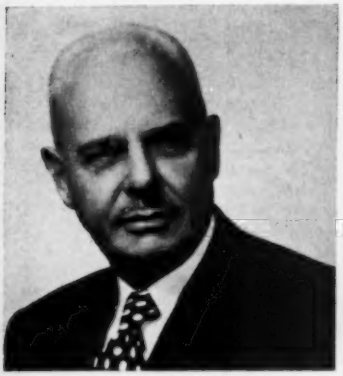
Benjamin D. Blood
Secretary General of
Directing Council

Directing Council of Pan American Congresses to Meet

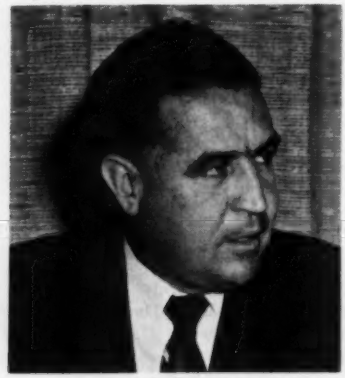
The Organizing Committee of the Joint Pan American Congress of Veterinary Medicine-AVMA meeting extends a most cordial welcome to all veterinarians and their wives attending the convention in Kansas City.

The business matters of the congress will be transacted at the sessions of the Directing Council of the Pan American Congresses of Veterinary Medicine convening August 21 and 22. Items of business include the preparation of resolutions to be presented at the closing session of the joint meeting on Thursday, August 27.

Co-Chairmen of the Organizing Committee for the Joint Pan American-AVMA Meeting



James A. McCallam



Juan F. Figueroa

Jose M. Santivanez

Directing Council of the Pan American Congresses of Veterinary Medicine
(as of May 8, 1959)

Country	Members	Alternates
Argentina	Dr. Jorge Borsella, Buenos Aires	Dr. Hector Aramburu, Buenos Aires
Brazil	Dr. Adolfo M. Penha, Sao Paulo	Dr. Mario D' Apice, Sao Paulo
Cuba	Dr. Arturo Albareda Aulet, Habana	Dr. Luis Garcia Robiou, Habana
Chile	Dr. Teodoro Poseck Pedreros, Santiago	Dr. Eduardo Ponce Pacheco, Santiago
Ecuador	Dr. Rosendo Ordonez Espinosa, Quito	.....
El Salvador	Dr. Ricardo Molina Aguilar, San Salvador	Dr. Julio T. Grimaldi, San Salvador
Guatemala	Dr. Jorge Martinez del Rosal, Guatemala	Dr. Ramiro Faillace de Leon, Guatemala
Haiti	Dr. Eliseo Eustache, Port-au-Prince	.....
Mexico	Dr. Pablo Zierold Reyes, Mexico, D.F.	Dr. Raul Escalona, Mexico, D.F.
Panama	Dr. Alcibiades A. Arosemena, Panama	Dr. Juan J. Parada, Panama
Paraguay	Dr. Thomas Romero Ortiz, Asuncion	Dr. Arsenio Vasconsellos, Asuncion
Peru	Dr. Juan Figueroa I., New York City (U.S.)	Dr. Humberto Ruiz U., Lima
Republica Dominicana	Dr. Otto Gonzalez Sanchez, Ciudad Trujillo	Dr. Anibal Zanabia Ortega, Ciudad Trujillo
United States of America	Brig. Gen. J. A. McCallam, Washington, D. C.	Dr. C. D. Van Houweling, Washington, D. C.
	Dr. J. G. Hardenbergh, Chicago	Dr. H. E. Kingman, Jr., Chicago
Uruguay	Dr. Guillermo Lockhart, Montevideo	Dr. Nelson Magallanes, Montevideo

Message from the General Chairman, Committee on Local Arrangements

The veterinarians and their wives of Kansas and Missouri are greatly honored to be the hosts at the Ninety-Sixth Annual Meeting of the American Veterinary Medical Association and the Third Pan American Congress of Veterinary Medicine in August. On their behalf, I extend to you a most cordial invitation to attend.

Dr. W. H. Mowder, General Chairman

Dr. F. A. O'Donnell, General Secretary

Because we are centrally located, and also because advance registrations are high, we are confident that this meeting will be entered in the annals of veterinary medicine as the largest group of veterinarians ever assembled in the history of our profession. The magnitude of such a meeting shows that veterinary medicine is not static. It is an indication of our scientific and professional progress.

Excellent hotel accommodations are available; our municipal auditorium is among the finest in the world; and transportation throughout the city is excellent. Not only is Kansas City rich in history but the city offers, as well, unequaled facilities for shopping, dining, and entertainment.

The Committee on Local Arrangements has planned unusual and exciting programs for every member of the family and for all age groups. We are proud to extend our hospitality and to welcome you to Kansas City.

s/W. H. Mowder, *General Chairman*

Dr. L. D. Jernigan, Co-Chairman

Dr. A. H. Quin, Co-Chairman

Dr. A. S. Coates, Jr., Co-Chairman

Committees on Local Arrangements Ninety-Sixth Annual Meeting

General Officers

Dr. W. H. Mowder, *General Chairman* Dr. F. A. O'Donnell, *General Secretary*
Drs. A. H. Quin, L. D. Jernigan, and A. S. Coates, Jr., *Co-Chairmen*

Committees

Alumni Dinners

J. C. Davis, *Chairman*
Dean A. H. Groth and staff
Dean E. E. Leasure and staff
Iain Paton

Entertainment

F. B. Ogilvie, *Chairman*
Mrs. Charles S. Cassias, *Co-Chairman*
Glen L. Dunlap
Joe A. Farney
Merle L. Henrickson
Earl L. Mundell

Exhibits

F. M. Wallace, *Chairman*
Dale L. Bivin
A. W. Brecheisen
John A. Chapin
J. E. DeWeese
Tom Fowler
J. D. Groff
L. E. Hanson
K. D. Henrikson
E. D. Johnston
Taylor L. Lane
R. W. Leech
N. A. Luckeroth
A. L. Maxfield
C. E. Moles
W. O. Nelson
W. L. Pelot
L. L. Rice
L. H. Shockey
W. E. Stuart

Garages, Parking, and Transportation

R. E. Guilfoil, *Chairman*
R. J. Brugger
Charles S. Cassias
W. J. Gough
Marvin Johnson
W. O. Kelley
E. L. Mundell
Dan B. Russell
G. A. Windisch

Golf Tournament

L. T. Hopkins, *Chairman*
Mrs. Earl Mundell, *Co-Chairman*
W. E. Cahill
H. J. Clary
George Curts
Guy G. Graham
Joe E. Guilfoil
E. H. Haynie
Alton J. Wilson

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C. H. Anthony
J. W. Barry, Jr.
N. D. Beckenhauer
J. A. Bradbury
R. A. Bruce
R. L. Butler
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J. W. Gamby
O. V. Grounds
A. A. Hamilton
W. J. Hayden
R. D. Holder
T. J. Leasure
C. V. Metcalf

Meeting Rooms and Equipment

Arthur Freeman, *Chairman*
C. P. Bates
Frank England
Heinz Goldman
T. Higgins
G. L. Johnson
E. W. Theiss
J. A. Zacher

Publicity and Public Relations

C. M. Cooper, *Chairman*
Mrs. Robert Anderes, *Co-Chairman*
Harold E. Bain
H. H. Berrier
C. J. Bierschwal and students
E. H. Coles and students
C. S. Eppright
F. D. Gentry
K. H. Niemeyer
N. E. Paton
Deets Pickett
D. B. Winters
H. W. Young

Registration and Information

W. L. Schondelmeyer, *Chairman*
Mrs. Busch Meredith, *Co-Chairman*
Mrs. James McCrea, *Co-Chairman*
G. W. Beran
C. D. Bilyea
E. E. Burgess
Mrs. S. W. Cole
W. W. Crenshaw
W. E. Dicke
E. F. Finke
Joe S. Gelb
J. S. Haley
J. C. Hughes
Lynn D. Hupp
C. E. Knappenberger
W. W. Love
C. J. McCormick
G. L. McKee
Maurice Miller
C. W. Monsess
L. F. Paulich
H. W. Pilcher
J. R. Randolph
M. D. Rockhold
Ridge L. Scott
H. C. Sebolt
J. B. Simpson
P. L. Spencer
F. L. Steffan
G. C. Stiles
D. M. Trotter
M. J. Twiehaus
T. J. Vogelweid
W. W. Watson
W. W. Wempe

Chairmen

Local Subcommittees

Kansas City Meeting

Registration and Information

Dr. W. L. Schondelmeyer

Reception and Hospitality

Dr. J. F. Knappenberger

Meeting Rooms and Equipment

Dr. Arthur Freeman

Hotels and Housing

Dr. K. M. Curts

Golf Tournament

Dr. L. T. Hopkins

Women's Activities

Mrs. Glen L. Dunlap, Chairman

Television

Dr. T. M. Eagle

Luncheon

Mrs. K. M. Curts

Tea

Mrs. G. L. Johnson

Tours

Mrs. W. H. Mowder

Teenagers

Mrs. R. L. Anderes

Subteenagers

Mrs. Earl Mundell

Exhibits

Dr. M. F. Wallace

Garages, Parking, and Transportation

Dr. R. E. Guilfoil

Publicity and Public Relations

Dr. C. M. Cooper

Alumni Dinners

Dr. J. C. Davis

Entertainment

Dr. F. B. Ogilvie

Reception and Hospitality

J. F. Knappenberger, *Chairman*
Mrs. J. D. Fortenberry, *Co-Chairman*
C. W. Bower
W. F. Bradley
Allen Brite
C. S. Cassias
F. E. Coley
T. J. Crispell
R. R. Dykstra
Cecil Elder
J. D. Fortenberry
E. J. Frick
F. L. Hart
H. Holmes
J. W. Lumb
H. J. King
J. T. McGinity
R. B. Meeks
E. W. Millenbruck
M. W. Osburn
Fred Storz
G. M. Umberger
H. M. Wallace
D. O. Wendt
R. C. Wright

Television

T. M. Eagle, *Chairman*

Large Animal

H. C. Ashby
A. A. Davies
W. E. Lowry
J. C. McCrea
E. L. Montgomery
E. L. Robinson
S. L. Stewart
Max D. Sutter
I. J. Twiehaus
D. B. Winters
C. C. Pemberton
J. E. Mosier

Small Animal

S. W. Cole
E. C. Grief
G. A. Hamilton
Kenneth Niemeyer
Busch Meredith
R. L. Messer
W. F. Noland
Charles S. Sackett

Public Health

A. L. Bailey
J. E. Bingham
C. R. King
E. R. Price

Women's Activities

Mrs. Glen L. Dunlap, *Chairman* — Mrs. Joseph Zacher, *Social Secretary*

Luncheon

Mrs. K. M. Curts, *Chairman*
Mrs. C. D. Stumpff, *Assistant Chairman*
Mrs. W. F. Bradley
Mrs. C. S. Cassias
Mrs. Albert S. Coates, Jr.
Mrs. Thomas Eagle
Mrs. J. D. Fortenberry
Mrs. LeRoy Hansen
Mrs. Marvin Johnson
Mrs. Robert L. Knoche
Mrs. T. J. Leasure
Mrs. W. F. Noland
Mrs. W. W. Wempe
Mrs. D. O. Wendt

Tea

Mrs. Gerald Johnson, *Chairman*
Mrs. R. Duane Holder, *Co-Chairman*
Mrs. C. W. Bower
Mrs. F. E. Coley
Mrs. R. R. Dykstra
Mrs. E. F. Ebert
Mrs. Cecil Elder
Mrs. E. R. Frank
Mrs. E. J. Frick
Mrs. A. H. Groth
Mrs. Robert Hertzog
Mrs. L. D. Hupp
Mrs. H. J. King
Mrs. Ashe Lockhart
Mrs. James McCrea
Mrs. James McKitterick
Mrs. L. W. Mohney
Mrs. A. H. Quinn
Mrs. L. L. Rice
Mrs. Chas. S. Sackett
Mrs. Paul Spencer
Mrs. J. C. Symns
Mrs. Hugh Wallace
Mrs. J. L. Wells

Women's Tours

Mrs. W. H. Mowder, *Chairman*
Mrs. W. L. Schondelmeyer, *Co-Chairman*
Mrs. Dale Biven
Mrs. William Cahill
Mrs. Dean Conrad
Mrs. James Farrell
Mrs. Walter Feckner
Mrs. Elmer Finke
Mrs. Ted Higgins
Mrs. Carl Johnson
Mrs. Ray Meier
Mrs. Busch Meredith
Mrs. Frank O'Donnell
Mrs. H. W. Pilcher
Miss Mary Reece
Mrs. Fred Seevers
Mrs. E. W. Theiss

Teenagers

Mrs. Robert Anderes, *Chairman*
Mrs. J. F. Knappenberger, *Assistant Chairman*
Mrs. Howard C. Ashby
Mrs. A. A. Davies
Mrs. Jack Delany
Mrs. Byron Denholm
Mrs. Yale Druley
Mrs. J. Farney
Mrs. Arthur Freeman
Mrs. F. L. Hart
Mrs. D. R. Haney
Mrs. Dean Holder
Mrs. W. L. Jones
Mrs. J. Landholm
Mrs. L. D. Miller
Mrs. G. O. Sigars
Mrs. J. H. Watson
Mrs. Dean Weckman
Mrs. R. C. Wright

Subteenagers

Mrs. Earl Mundell, *Chairman*
Mrs. C. Roland King, *Assistant Chairman*
Mrs. George Bilyea
Mrs. C. M. Cooper
Mrs. Forrest Cox
Mrs. J. C. Davis
Mrs. James Fevurly
Mrs. J. W. Goin
Mrs. W. J. Gough
Mrs. Robert Guilfoil
Mrs. Herbert Haas
Mrs. John Haley
Mrs. A. A. Hamilton
Mrs. Edward T. Hannan
Mrs. Robert Hanson
Mrs. R. L. Messer
Mrs. John S. Modlin
Mrs. E. L. Montgomery
Mrs. J. M. Neal
Mrs. Fred B. Ogilvie
Mrs. Ray Ottinger
Mrs. Iaian Paton
Mrs. Deets Pickett
Mrs. Ridge Scott
Mrs. Max Sutter
Mrs. Austin G. Taylor

Women's Auxiliary Business Session

Hotel Muehlebach

Friday, August 21

1:00 p.m. Executive Board, first session—*Parlor B.*

Saturday, August 22

9:00 a.m. Budget Committee and Executive Board, second session—*Parlor B.*

Tuesday, August 25

8:00 a.m. House of Delegates Buffet Breakfast—*Colonial Ballroom.*
9:00 a.m. House of Delegates to be followed by Annual Meeting (all interested women are invited)—*Colonial Ballroom.*

Wednesday, August 26

9:00 a.m. Auxiliary Workers' Conference—*Colonial Ballroom.*

Thursday, August 27

8:30 a.m. Executive Board, third Session—*Parlor B.*

Message from the President of the Women's Auxiliary

I am happy and proud to welcome the wives of veterinarians to the Forty-Second Annual meeting of the Women's Auxiliary to the AVMA, in conjunction with the Ninety-Sixth Annual Meeting of the AVMA and the joint Third Pan American Congress of Veterinary Medicine at Kansas City, Mo., Aug. 23-27, 1959.

Mrs. E. A. Woelffer, President

Many of you have shared in the planning and promotion of this Convention under the able direction of Mrs. Glen L. Dunlap, the local chairman of Women's Activities. We thank you most sincerely and look forward to meeting all of you.

Make a special effort to plan to attend the House of Representatives, annual business meeting, and the Auxiliary Workers' Conference. Here you will see your Auxiliary in action. Whether you are an officer or delegate, everyone is welcome.

May you receive during these few days the information and inspiration needed to redouble your efforts to "Help Shape the Future" and thereby make 1959-1960 a significant year in the Women's Auxiliary to the AVMA.

s/(Mrs. E. A.) Marian Woelffer, *President*

Women's Auxiliary

President—Mrs. E. A. Woelffer, Oconomowoc, Wis

President-Elect—Mrs. F. R. Booth, Elkhart, Ind.

Recorder—Mrs. E. E. Leasure, Manhattan, Kan.

First Vice-President—Mrs. J. Cornwell, Asheville, N. Car.

Second Vice-President—Mrs. T. S. Maddox, Greenville, Ky.

Third Vice-President—Mrs. S. F. Scheidy, Bryn Mawr, Pa.

Secretary—Mrs. A. W. Eivers, Salem, Ore.

Membership Secretary—Mrs. C. M. Rodgers, Blandinsville, Ill.

Treasurer—Mrs. J. D. Stevens, Sequim, Wash.

A visit to the new Harry S. Truman Library will be a part of the "Independence Historical" Tour which will follow the Opening Session on Monday.

Message from the Chairman of the Committee on Women's Activities

The Heart of America and the two states it represents, Kansas and Missouri, welcomes you to the birthplace of the Auxiliary. Kansas City, like the Auxiliary, has grown and changed tremendously since that momentous date of 1917. We know you will enjoy the beauty and culture of the city as much as the program we have planned for you and your family.

Some changes have been made from the usual routine. After attending the Opening Session on Monday morning, you will start the social activities with either a "Grand Circle" Tour, which is a comprehensive circuit of the outstanding attractions of Greater Kansas City, or the "Independence Historical" Tour where you will see such places as the Harry S. Truman Library and the multimillion-dollar Reorganized Latter Day Saints Auditorium. The tea on Tuesday afternoon at the beautiful William Rockhill Nelson Gallery of Art is arranged so that you may, with guides, see the extensive collection of art there. Since we plan on this being a record-setting meeting in size, our luncheon will be held at the Municipal Auditorium where special plans are being made to please both our South American friends and you.

Visitors to Kansas City will enjoy the lovely wooded residential area with its rolling lawns, fountains, and European statuary.

For the children, we have a treat in store. The Rodeo Kids, a group of juvenile trick riding and roping entertainers who perform annually at the American Royal as well as other places of note throughout the country, will give a show on Wednesday. To make the program complete, there will be a Coke Dance and a Splash Party on the preceding days.

A Coke and Chatter Party will get the subteens off to a good start on Monday afternoon. On Tuesday, they will see the Kansas City Museum and Planetarium, and for Wednesday, a hot lunch served in Swope Park will prepare boys and girls for touring the Zoo.

All tours will start from the auditorium where mothers and children can meet in the TV room which will open at 1:00 p.m. on Monday and will remain open during planned activities. Women will be present to supervise children. (After consideration, it was deemed unnecessary to keep the room open except while mothers are busy with planned social functions).

Through the day, Kansas City will probably be quite warm but if you go to the ball park to see the Kansas City Athletics and Baltimore Orioles play or to the Starlight Theater to see "Lil Abner" you may need a light wrap.

Women golfers will want to bring their clubs, for again this year the men are including you in the Monday afternoon tournament at Hillcrest Country Club. If you wish to play bridge while your husband is golfing, there will be a bridge party, with prizes, in the Bridge Room of the Country Club.

It has been our aim to plan an enjoyable social program for you with enough time to spare for shopping and visiting. We are looking forward to our joint Pan American-AVMA Convention. Won't you join us?

s/Mrs. Glen L. Dunlap,
Chairman, Women's Activities

Women's Social Program

Sunday, August 23

10:00 a.m. Registration Opens—*Municipal Auditorium.*
10:00 a.m. Visit Commercial and Scientific Exhibits—*Municipal Auditorium.*

Monday, August 24

8:30 a.m. Registration—*Municipal Auditorium.*
9:30 a.m. Opening Session—*Municipal Auditorium.*
12:00 Noon Commercial and Scientific Exhibits Open—*Municipal Auditorium.*
12:30 p.m. Special Tour.
1) Truman Library.
2) Old Jackson County Jail and Museum.
3) Reorganized Church of Jesus Christ of Latter Day Saints Auditorium.

Tuesday, August 25

2:00 p.m. to
4:00 p.m. Tea and Reception—*Nelson Art Gallery.*

Wednesday, August 26

12:30 p.m. Luncheon—*Municipal Auditorium.*
8:00 p.m. Installation of Officers of Women's Auxiliary and of the AVMA; Entertainment; President's Reception; Dance—*Municipal Auditorium and Hotel Muehlebach.*

Teenagers' Program

Monday, August 24

2:00 p.m. Coke Dance—*Colonial Ballroom, Hotel Muehlebach.*

Tuesday, August 25

10:00 a.m. Roy Knapp's Rodeo Kids and Rough Riders (Mom and Dad will like this, too—so they are also invited).

Wednesday, August 26

10:00 a.m. Splash Party—*Meadow Lake Country Club.*

Subteenagers' Program

(Ages 7 to 12 years)

Monday, August 24

1:00 p.m. Coke and Chatter Party, "Teen-Subteen Club"—*Room 600, Auditorium.*

Tuesday, August 25

10:00 a.m. Roy Knapp's Rodeo Kids and Rough Riders (Mom and Dad will like this, too—so they are also invited).
1:30 p.m. Kansas City Museum and Planetarium.

Wednesday, August 26

11:30 and 3:30 Tour of Swope Park and Zoo.

Subteenagers will enjoy Swope Park with its newly enlarged Children's Zoo, boating lakes, swimming pool, and other recreational facilities. Right—Playmates at the Children's Zoo.

Television at Kansas City

Dr. L. E. Fisher, Riverside, Ill., is coordinator of television programs. The smooth presentation of this part of the program is largely due to his many hours of work behind the scenes.

The televised (closed-circuit) portion of the scientific program is made possible by the generous support of Allied Laboratories, Inc., in cooperation with Radio Corporation of America.

Point Credits for Reserve Officers

Veterinarians holding Reserve commissions in the Army Veterinary Corps, *who are not on active duty*, may receive reserve credit for attending the AVMA Convention in Kansas City. This arrangement has been approved by the Commanding General, U.S. Continental Army Command.

Such Reserve officers of the Army are eligible to earn training and retirement point credits, providing such attendance at any session of the convention is for a period of not less than two hours and that the officer registers for each day he attends the convention. Not more than one credit can be granted for any single calendar day. Provisions will be made for enrollment near the convention registration desk. At time of enrollment for this Reserve credit appropriate instructions will be provided the Reserve officer concerned.

Automobile Parking and Facilities for Private Planes in Kansas City, Mo.

Auditorium Plaza Garage

Accommodates 1,200 cars. In and out service available for $6.00 per week. Underground tunnel connects to the Muehlebach and Aladdin Hotels.

Other Hotels

Parking facilities available at reasonable rates. Write to the hotel of your choice for further information.

Fairfax Airport—Private Planes

McCarty Aero, Inc.
3301 Fairfax Road
Henry Stamper, Manager
Telephone: MA 1-5500
No charge for outside parking of planes. No inside space available. Pilots must have own tie-down ropes.

Municipal Airport

Various parking lots available.

General Convention Entertainment
Kansas City, Missouri

Monday, August 24, 1:00 p.m.
AVMA Golf Tournament—*Hillcrest Country Club.*

Tuesday, August 25, 6:30 p.m.
Alumni Dinners—*Hotels to be announced.*

Wednesday, August 26, 8:00 p.m.
President's Reception and Dance
Installation of Officers of the AVMA and Women's Auxiliary
Entertainment
Municipal Auditorium and Muehlebach Hotel

▲ The Hillcrest Country Club where the golf tournament will be held.

AVMA Golf Tournament

Eagles, Par Players, Birdies, and Challengers: There's another opportunity to compete for prizes at Kansas City. The AVMA Golf Tournament will be held Monday, August 24, at the Hillcrest Country Club.

Abounding in natural beauty, Hillcrest is distinctive for its championship layout and challenge to 90 to 100 shooters. A commodious clubhouse provides excellent facilities for the welfare of its guests. This club has been the location of many championship tournaments in the past and eagerly awaits competitors for AVMA prizes.

The Hillcrest Country Club is inside the corporate limits of Kansas City and is only a short drive from downtown hotels. Arrangements have been made for bus service from the AVMA headquarters hotel, the Hotel Muehlebach, to the golf club and back for golfers who leave their cars at home.

Prizes

Two-man teams representing constituent associations may be entered to compete for the golf trophy awarded annually by the AVMA.

Individual prizes for low, second, and third scores will be given. First, second, and third prizes will be awarded in flights A, B, and C, and also to the Low Ball Foursome, Lady Medallist, and Exhibitor Medallist.

Arrangements will be made for a bridge party for the ladies who prefer cards to golf. Depending on weather, the party will be held on the lawn or in the Bridge Room of the Country Club. First and second prizes will be awarded to the winning bridge couples.

All prizes will be awarded during the social hour following the tournament. They will be credit cards issued on the pro-shop of the golf course, so winners can select an item of value to him or herself. In individual competitions, the "Calloway System" will be used for scoring.

AVMA Trophy

Each state and provincial association may enter as many teams as desired to compete for the AVMA Trophy. Regular scoring will be used in this competition. Pairings for constituent teams to compete for this Trophy can be arranged early and tickets purchased in advance. Write or contact Dr. L. T. Hopkins, 5837 Highland Ave., Kansas City, Mo.

Tickets

Tickets for the Kansas City Golf Tournament will be on sale Saturday and Sunday at the Municipal Auditorium.

Green fees, bus transportation, and the social hour are included in the $7.00 entrance fee. Caddy fees or electric carts are available at the Country Club at the golfer's expense.

Start the 96th AVMA meeting off with an outing at Kansas City's convenient golf course by registering for the golf tournament when you register for the convention.

AVMA Trophy

Group Conferences and Meetings

(Meetings in Hotel Muehlebach unless otherwise indicated)

Saturday, August 22

All Day — American Association of Veterinary Bacteriologists—*Division of Veterinary Medicine, Iowa State College, Ames, Iowa.*

1:30 p.m. — American Association of Veterinary Clinicians—*Dykstra Hall, Kansas State University.*

Sunday, August 23

All Day — American Association of Veterinary Parasitologists—*Room 364.*

10:00 a.m. — American College of Veterinary Toxicologists—*Tea Room.*

10:00 a.m. and 1:30 p.m. — Association of Deans of American Colleges of Veterinary Medicine—*Dining Room 3.*

2:00 p.m. — Association of American Boards of Examiners in Veterinary Medicine—*Room 362.*

3:00 p.m. — Conference of Public Health Veterinarians—*Room 363.*

6:00 p.m. — American Veterinary Exhibitors Association—*T-21 and T-22.*

7:00 p.m. — Delegates, Student Chapters and Auxiliaries—*Windsor Room, Phillips Hotel.*

8:00 p.m. — American Board of Laboratory Animal Medicine—*Music Room.*

8:00 p.m. — American Association of Veterinary Anatomists—*Dining Room 4.*

Monday, August 24

12:00 Noon — Industrial Veterinarians—*Trianon Room.*

1:30 p.m. — Animal Disease Eradication Division, ARS—*Room 503, Auditorium.*

3:00 p.m. — American Veterinary Radiology Society—*Room 362.*

3:00 p.m. — Women's Veterinary Medical Association—*Dining Room 3.*

4:00 p.m. — National Society of Phi Zeta—*Tea Room.*

6:00 p.m. — Association of American Boards of Examiners in Veterinary Medicine—*Parlor A.*

7:30 p.m. — American Association of Veterinary Nutritionists—*T-21 and T-22.*

7:30 p.m. — American College of Veterinary Pathologists—*Trianon Room.*

7:30 p.m. — Editors' Conference—*Room 364.*

7:30 p.m. — National Assembly of Chief Livestock Sanitary Officials—*Dining Room 4.*

7:30 p.m. — National Association of Extension Veterinarians—*Parlor B.*

7:30 p.m. — National Association of Federal Veterinarians—*Tea Room.*

7:30 p.m. — Zoo Veterinarians—*Room 363.*

8:00 p.m. — American Board of Veterinary Public Health—*Room 362.*

8:00 p.m. — American Association of Equine Practitioners—*Music Room.*

8:00 p.m. — American Association of Veterinary Anatomists—*Dining Room 3.*

Tuesday, August 25

8:00 a.m. — Advisory Committee of U.S.L.S.A. to ARS—*Cask Room.*

9:00 a.m. — Animal Inspection and Quarantine Division, ARS—*Room 404, Auditorium.*

9:00 a.m. — Meat Inspection Division, ARS—*Room 403, Auditorium.*

9:30 a.m. — American Society of Veterinary Ophthalmology—*Trianon Room.*

1:00 p.m. — American Association of Veterinary Anatomists—*Dining Room 4.*

1:30 p.m. — Joint Meeting of State and Federal Regulatory Veterinarians—*Room 500, Auditorium.*

3:00 p.m. — National Board of Veterinary Medical Examiners—*Parlor A.*

4:00 p.m. — American Association of Avian Pathologists—*Room 364.*

Wednesday, August 26

12:00 Noon — American Animal Hospital Association—*Trianon Room.*

3:00 p.m. — U.S. Army Veterinary Corps Officers—*Room 403, Auditorium.*

Thursday, August 27

7:30 a.m. — Section Officers' Breakfast—*Parlor A.*

Opening Session

Music Hall, Auditorium

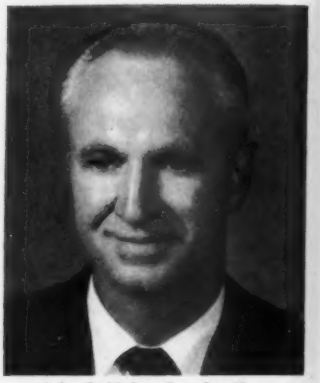
Monday, August 24, 1959

9:00 a.m.	*Musical Selections.*
9:30	*Call to Order*—Brig. Gen. J. A. McCallam, Chairman, Organizing Committee.
9:35	*Invocation*—The Reverend Maurice Van Ackern.
9:40	Election of Presiding Officer.
9:45	*Address of Welcome*—Mayor Roe Bartels.
9:55	*Response*—President, Directing Council, Pan American Congress.
10:05	*Introduction of Guests.*
10:15	*Address*—S. F. Scheidy, President-Elect.
10:30	*Greetings from Women's Auxiliary*—Mrs. E. A. Woelffer.
10:35	*Address*—John McCain, President, Kansas State University.
11:00	*Presentation of Awards:* 12th International Veterinary Congress Prize. Borden Award for 1959. AVMA Award. Practitioner Research Award. Gaines Award.
11:20	*Address*—"Global Picture of Animal Disease"—Sir Thomas Dalling, Veterinary Consultant, Agricultural Division, FAO, United Nations (to be presented by Ervin A. Eichhorn, Chief, Animal Health Branch, FAO, United Nations).
11:50	Announcements.
12:00	Adjourn.

Section Officers—Kansas City Session

E. F. Ebert, Columbia, Mo.
Chairman

Section on General Practice



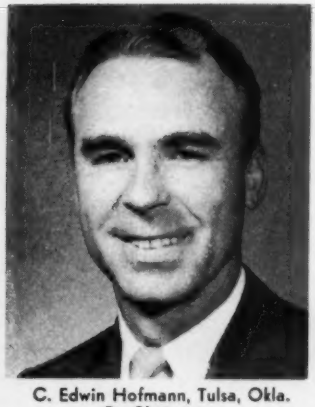
John S. Haley, Topeka, Kan.
Secretary

David K. Detweiler, Broomall, Pa.
Chairman

Section on Research

M. J. Tweihaus, Manhattan, Kan.
Secretary

Section on Small Animals



C. Edwin Hofmann, Tulsa, Okla.
Co-Chairman

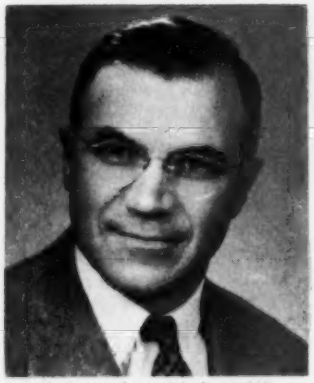
William F. Irwin, Tulsa, Okla.
Co-Chairman

Jacob E. Mosier, Manhattan, Kan.
Secretary

Section Officers—Kansas City Session

Section on Poultry

M. S. Cover, Newark, Del.
Chairman



S. B. Hitchner, Madison, Wis.
Secretary

Section on Surgery and Obstetrics

S. J. Roberts, Ithaca, N.Y.
Chairman

Fayne H. Oberst, Manhattan, Kan.
Secretary

Section on Public Health and Regulatory Veterinary Medicine

Frank A. Todd, Washington, D.C.
Chairman

E. R. Price, Jefferson City, Mo.
Secretary

Combined Sections on General Practice and Surgery and Obstetrics

Monday, August 24, 1959, 1:30 p.m.

Music Hall, Auditorium

E. F. Ebert, *Chairman* John S. Haley, *Secretary*

First Session

1:30 (1) Pathology and Treatment of Foot Rot in Cattle.
O. R. Adams, Fort Collins, Colo.

2:00 (2) Television—Anesthesia of the Bovine Eye Prior to Surgery.
Demonstrator—*Paul Christian, Waco, Texas.*
Narrator—*T. T. Christian, Waco, Texas.*

2:05 (3) The Response of Bovine Ocular Carcinoma to Radiation Therapy.
W. C. Banks, College Station, Texas.

2:25 (4) Television—Ablation of the Bovine Eye.
Demonstrator—*Paul Christian, Waco, Texas.*
Narrator—*T. T. Christian, Waco, Texas.*

2:35 (5) The Examination of Bulls for Fertility, with Comments on Pathology.
Dan E. Goodwin, Potean, Okla.

3:00 (6) Potentials and Limitations of Sexual Behavior and Semen Production of Bulls.
John O. Almquist and E. B. Hale, University Park, Pa.

3:30 (7) Television—A Unique Instrument for Bovine Castration.
Demonstrator—*W. E. Newberry, Troy, Mo.*

3:35 (8) Television—Dehorning of Calves.
Demonstrator—*Clifford C. Beck, East Lansing, Mich.*

3:40 (9) Television—Demonstration of a Hydraulic Dehorner.
Demonstrators—*R. S. Clark and H. P. Callaway, Waverly, Mo.*

3:45 (10) Certification of VPP-Free Swine Herds.
Norman R. Underdahl, Babir Ozgencil, and George A. Young, Lincoln, Neb.

4:05 (11) Television—Restraint of Cattle or Several Uses of a Lariat Rope.
Demonstrator—*John K. Dewar, Cherokee, Iowa.*

4:15 (12) Circumcision of the Bull.
William M. Romane, College Station, Texas.

4:25 Question Period.

4:30 Demonstrations of instruments and techniques used on above TV programs will be held next to the TV studios on the exhibit floor for those who wish to see them and ask questions.

5:00 Adjournment.

Section on Research

Monday, August 24, 1959, 1:30 p.m.

Little Theater, Auditorium

D. K. Detweiler, *Chairman* Marvin J. Twiehaus, *Secretary*

First Session

(Each paper will be followed by a five-minute discussion period)

1:30 (13) Some Factors that May Influence Hog Cholera Transmission.
Richard W. Hughes and Donald P. Gustafson, Lafayette, Ind.

1:50 (14) Neutralization of Bluetongue Virus. I. The Test in Embryonated Eggs.
Sven-Eric Svehag, Alison Viebrock, and John R. Gorham, Pullman, Wash.

2:10 (15) Observations on the Life and Pathogenicity of the Swine Kidney Worm (*Stephanurus dentatus*).
Edward G. Batte, Reinard Harkema, and J. C. Osborne, Raleigh, N. Car.

2:30 (16) Natural Outbreaks of *Salmonella dublin* in Arizona—A Preliminary Survey.
Ned W. Rokey and Homer G. Erling, Mesa, Ariz.

2:50 (17) Mucosal Disease Agent—Isolation, Transmission, and Tissue Culture Studies.
I. A. Schipper and Frank M. Noice, Fargo, N. Dak.

3:10 (18) Serological Relationship of New Feline Viruses.
James L. Bittle, Charles J. York, and Marian Martin, Indianapolis, Ind.

3:30 (19) Studies of Cytopathology Induced by the Infectious Bovine Rhinotracheitis Virus and Some Characteristics of the Intranuclear Inclusion Bodies.
J. G. Stevens and T. L. Chow, Fort Collins, Colo.

3:50 Appointment of the Nominating Committee.

3:55 (20) Bovine Winter Dysentery. I. Isolation and Identification of a Filterable Etiological Agent.
H. W. Dunne, J. F. Hokanson, R. F. Solarzano, and A. J. Luedke, University Park, Pa.

4:15 (21) Testicular Tumors in Bulls.
Kenneth McEntee, Ithaca, N.Y.

4:35 Adjournment.

Combined Sections on General Practice and Surgery and Obstetrics

Tuesday, August 25, 1959, 8:15 a.m.

Music Hall, Auditorium

S. J. Roberts, *Chairman* Fayne H. Oberst, *Secretary*

Second Session

8:15 (22) Estrus and Ovulation in the Thoroughbred Mare.
W. R. McGee, Lexington, Ky.

8:40 (23) Television—The Use of Succinylcholine Chloride and Inhalation Anesthesia in Thoroughbred Horses.
Demonstrator—*Charles R. Allen, Jr., Hialeah, Fla.*
Narrator—*Robert Copelan, Lexington, Ky.*

8:55 (24) Equine Anesthesia.
E. Wynn Jones, Stillwater, Okla.

9:10 (25) Mass Inoculation and Treatment of Sheep.
Robert S. Dickson, Bakersfield, Calif.

9:30 (26) Ovine Virus Abortion.
E. A. Tunnicliff, Bozeman, Mont.

9:45 Appointment of Nominating Committee.

9:50 (27) Some Nervous Disorders of Large Animals.
John T. McGrath, Philadelphia, Pa.

10:20 (28) Television—Why Push-Button Pork?
Demonstrator—*Marcus Haggard, Delphi, Ind.*

10:35 (29) Television—Obstetrical Procedures in Swine.
Demonstrator—*Lee T. Railsback, Ellsworth, Minn.*

10:55 (30) Diagnosis and Control of Leptospirosis in Cattle and Swine.
Marvin J. Twiehaus, Manhattan, Kan.

11:20 (31) Diseases of the Equine Foot.
Antonio Pires, Buenos Aires, Argentina.

11:55 Question period.

12:00 Adjournment.

12:00 - 12:30 Demonstrations of instruments and techniques used on the above TV programs will be held next to the TV studio on the exhibit floor for those who wish to see them and ask questions.

Plenary Section on Research and Poultry

Tuesday, August 25, 1959, 8:30 a.m.

Little Theater, Auditorium

M. S. Cover, *Co-Chairman* D. K. Detweiler, *Co-Chairman*

First Session

(Each paper will be followed by a five-minute discussion period)

8:30 (32) Film—Prehension, Locomotion, and Rumination After Frontal Lobectomy in Goats.
E. C. Amoroso, F. R. Bell, and A. M. Lawn, London, England.

8:55 (33) Twelve Years of Large-Scale Use of Foot-and-Mouth Disease Vaccines in the Argentine—Statistical Results.
Carlos T. Rosenbusch, Buenos Aires, Argentina.

9:25 (34) Avian Leukosis and the Cancer Problem.
J. W. Beard, Durham, N. Car.

10:00 (35) The Parenteral Entrance of the Virus in Hog Cholera.
H. C. H. Kernkamp, St. Paul, Minn.

10:30 (36) Serological Problems Encountered in Blood Typing Chickens.
W. E. Briles, DeKalb, Ill.

11:10 (37) Immunity of the Reproductive Tracts of Laying Hens Vaccinated with the Tissue Culture Newcastle Disease Virus Vaccine.
R. A. Bankowski and Richard Corstvet, Davis, Calif.

11:45 Adjournment.

Section on Research

Tuesday, August 25, 1959, 1:30 p.m.

Room 400, Auditorium

D. K. Detweiler, *Chairman* Marvin J. Twiehaus, *Secretary*

Second Session

(Each paper will be followed by a five-minute discussion period)

1:30 (38) The Basis for Interpretation of the Electrocardiogram.
Robert L. Hamlin, Columbus, Ohio.

1:50 (39) The Shock State During Heart-Lung By-Pass in the Dog.
James W. Dow, James F. Dickson, III, Neil A. J. Hamer, and Howard L. Gadboys, Philadelphia, Pa.

2:10 (40) A Morphological and Cytochemical Study of the Effects of Orally Administered 1, 1-Dichloro 2, 2-Bis (p-chlorophenyl) Ethane on the Adrenal Glands, Kidneys, and Livers of Goats.
J. Thomas Bell, Jr., Ames, Iowa.

2:30 (41) Comparative Studies of the Dorsal Vagal Motor Nucleus in Ruminants and Nonruminants.
Ralph L. Kitchell and M. W. Stromberg, St. Paul, Minn.; and L. H. Davis, Oconomowoc, Wis.

2:50 (42) Lead Toxicity Studies in Pigs.
R. P. Link, R. R. Pensinger, and A. M. Watrach, Urbana, Ill.

3:10 Report of Nominating Committee and Election of Officers.

3:30 (43) Cardiac Output in Cattle, Sheep, Deer, Swine, and Horses by the Dye Method and the Direct Fick Oxygen Technique.
Clarence M. Stowe and A. L. Good, St. Paul, Minn.

3:50 (44) Intracellular Recordings from False Tendon and Ventricular Muscle Units of the Dog During Repetitive Excitation.
E. Neil Moore, J. B. Preston, and G. K. Moe, Syracuse, N.Y.

4:10 (45) Pathophysiology of Canine Congestive Heart Failure.
C. R. Wallace, Augusta, Ga.

4:30 Adjournment.

Section on Poultry

Tuesday, August 25, 1959, 1:30 p.m.

Little Theater, Auditorium

M. S. Cover, *Chairman* S. B. Hitchner, *Secretary*

First Session

(Each paper will be followed by a five-minute discussion period)

1:30 (46) Is Feed Medication the Answer to the Control of Coccidiosis?
Robert L. Kilgore, St. Louis, Mo.

2:00 (47) Symposium—How Much Can We Expect from Our Poultry Vaccines?
Newcastle Disease Vaccine.
R. W. Winterfield, Madison, Wis.
Infectious Bronchitis Vaccine.
L. G. Raggi, Davis, Calif.
Laryngotracheitis Vaccine.
N. H. Casselberry, Berkeley, Calif.
Fowlpox Vaccine.
Arnold S. Rosenwald, Davis, Calif.

3:40 Appointment of Nominating Committee.

3:45 (48) Salmonellosis—Sources of Infection and Methods of Control.
L. C. Grumbles and J. R. Watkins, College Station, Texas.

4:15 (49) Killed Virus Vaccine in the Control of Newcastle Disease.
A. H. Dardiri, Vance J. Yates, P. W. Chang, and D. E. Fry, Kingston, R. I.

4:45 Adjournment.

Section on Small Animals

Tuesday, August 25, 1959, 1:30 p.m.

Music Hall, Auditorium

C. Edwin Hofmann, *Co-Chairman* — J. E. Mosier, *Secretary*
Wm. F. Irwin, *Co-Chairman*

First Session

1:30 (50) Extracapsular Cataract Extraction (Illustrated).
William G. Magrane, Mishawaka, Ind.

2:00 (51) Television—Panel on Radiology.
Moderator—*R. B. Barrett, Manhattan, Kan.*
Radiation Therapy.
William D. Carlson, Fort Collins, Colo.
Canine Angiocardiography.
Howard P. Hobson, Auburn, Ala.
New Materials for Radiography.
R. B. Barrett, Manhattan, Kan.
Radiographic Interpretation of Two Cases of Canine Pulmonary Osteoarthropathy.
N. B. Tennille, Stillwater, Okla.

2:45 (52) Contributions of Tissue Culture to Canine Hepatitis and Distemper Vaccination.
Victor J. Cabasso, Pearl River, N. Y.

3:05 (53) Epilepsy in the Dog.
George W. Eberhart, Manhattan, Kan.

3:25 (54) Relationship of Nutrition to Eczema in the Dog.
Alfonso Alexander, Mexico, D. F.

3:50 (55) Television—Necropsy Technique for the Dog.
Demonstrator—*Lennart P. Krook, Manhattan, Kan.*
Narrator—*Marvin J. Twiehaus, Manhattan, Kan.*

4:05 (56) Helpful Hints in Diagnosis and Treatment of Parakeets and Other Caged Birds.
R. H. Leonard, Muskogee, Okla.

4:20 (57) Television—Preparing Statements with Office Copying Equipment.
Demonstrator—*C. Edwin Hofmann, Tulsa, Okla.*

4:30 Appointment of Nominating Committee.

4:35 Question and Answer period.

4:45 Adjournment.

Section on Small Animals

Wednesday, August 26, 1959, 8:30 a.m.

Music Hall, Auditorium

C. Edwin Hofmann, *Chairman* William F. Irwin, *Secretary*

Second Session

8:30 (58) Evaluation of Several Surgical Procedures for Correction of Stifle Joint Injuries.
Wade O. Brinker and Soban S. Rathor (India), East Lansing, Mich.

9:00 (59) Television—Spinal Surgery on the Dog.
Demonstrator—*B. F. Hoerlein, Auburn, Ala.*

9:20 (60) Intervertebral Disk Syndrome in the Dog.
Joseph F. Skelley, Philadelphia, Pa.

9:50 (61) Television—Electrocardiographic Techniques and Diagnosis.
Demonstrator—*Carl H. Clark, Auburn, Ala.*

10:10 (62) Survey of Cardiovascular Disease in Dogs. II. Analysis of Findings from 3,000 Dogs Screened.
D. K. Detweiler, K. Hubben, and D. F. Patterson, Broomall, Pa.

10:30 (63) Panel—Clinical Management of Canine Filariasis.
Moderator—*J. O. Knowles, Miami, Fla.*
Robert Bailey, San Antonio, Texas.
Ronald F. Jackson, St. Augustine, Fla.
William F. Jackson, Lakeland, Fla.
Gilbert F. Otto, Chicago, Ill.

11:10 Question and Answer period.

11:30 **Adjournment.**

Section on Public Health and Regulatory Veterinary Medicine

Wednesday, August 26, 1959, 9:00 a.m.

Little Theater, Auditorium

F. A. Todd, *Chairman* E. R. Price, *Secretary*

First Session

9:00 (64) Animal Disease Control Activities in Great Britain.
John N. Ritchie, London, England.

9:30 (65) International Cooperation in the Control of Epizootic Diseases.
Daniel Mercado Garcia, Mexico City, Mexico.

10:00 (66) Eradication Versus Control of Communicable Diseases.
Fred L. Soper, Washington, D. C.

10:30 (67) Working Together for Healthier Livestock.
C. D. Van Houweling, Washington, D. C.

11:00 (68) Nature and Effects of Radioactive Fallout on the Farm
R. F. Reitemeier, Washington, D. C.

11:20 (69) Radioactive Fallout and Milk and Food.
Arthur H. Wolff, Bethesda, Md.

11:40 Adjournment.

Section on Poultry

Wednesday, August 26, 1959, 1:30 p.m.

Room 400, Auditorium

M. S. Cover, *Chairman* S. B. Hitchner, *Secretary*

Second Session

(Each paper will be followed by a five-minute discussion period)

1:30 (70) Studies on Immunization Against Avian Mycoplasma.
H. E. Adler, Duncan A. McMartin, and Moshe Shifrine, Davis, Calif.

2:00 (71) Epizootiological Considerations in Turkey Ornithosis.
L. A. Page, Davis, Calif.

2:30 (72) Recent Studies on the Virus of Infectious Bronchitis.
Charles H. Cunningham, East Lansing, Mich.

3:00 (73) Studies on Avian Encephalomyelitis. II. Immune Responses to Vaccination Procedures.
Bruce W. Calnek and H. Jebnich, Amherst, Mass.

3:30 (74) Avian Salmonellosis. III. A Rapid Whole-Blood Antigen for the Detection of Carriers of *Salmonella typhimurium* Infection.
J. E. Williams and M. E. Harris, Tappahannock, Va.

4:00 Election of Officers.

4:10 (75) Differentiation of Quail Bronchitis Virus (or CELO) and Infectious Bronchitis Virus by Heat Stability.
R. T. DuBose, L. C. Grumbles, and A. I. Flowers, College Station, Texas

4:30 Adjournment.

Section on Public Health and Regulatory Veterinary Medicine

Wednesday, August 26, 1959, 1:30 p.m.

Little Theater, Auditorium

F. A. Todd, *Chairman* E. R. Price, *Secretary*

Second Session

1:30 (76) Practical Benefits of Joint Agriculture-Health Services in Zoonoses Control.
Raul M. Mendy, Azul, Argentina.

1:50 (77) A New Look at Tuberculosis Eradication in Michigan.
Asa Winter, Lansing, Mich.

2:10 (78) Problems Associated with the Use of the Newer Insecticides for Livestock Pests.
R. D. Radeleff, Kerrville, Texas.

2:30 (79) Epidemiology of an Outbreak of Salmonellosis in North Carolina.
Martin P. Hines, William P. Glezen, Mildred A. Kerbaugh, and Jacob Koomen, Raleigh, N. Car.

2:50 (80) Humane Slaughter Program.
K. F. Johnson, Washington, D. C.

3:10 (81) Visualization of Foot-and-Mouth Disesase Virus Antigen by Fluorescent Antibodies.
B. Epstein, O. Vilar, J. H. Dellacha, C. J. Gomez, and R. E. Mancini, Buenos Aires, Argentina.

3:30 Report of Nominating Committee.

3:35 (82) Symposium—Leptospirosis in the Americas.
Moderator—*James H. Steele, Atlanta, Ga.*
Distribution of Leptospirosis in Latin America.
Aaron D. Alexander, Washington, D.C.
New Concepts of Leptospirosis in Animals
Erskine V. Morse, Ames, Iowa.
Problems in Treatment and Control of Leptospirosis.
S. G. Kenzy, R. W. H. Gillespie, and L. M. Ringen, Pullman, Wash.
Diagnostic Tests—Standardization and Interpretation.
David E. Hughes, Beltsville, Md.

4:30 Adjournment.

Combined Sections on Small Animals, General Practice and Surgery and Obstetrics

Wednesday, August 26, 1959, 1:30 p.m.

Music Hall, Auditorium

Wm. F. Irwin, *Chairman* J. E. Mosier, *Secretary*

1:30 (83) Wound Management in the Dog.
Francis T. Candlin, Denver, Colo.

2:10 (84) Television—Clinical Laboratory Procedures in Small Animal Practice.
Moderator—*Lee R. Phillips, Lakewood, Colo.*
Practical Laboratory Screening Procedures.
William J. Zontine, Lancaster, Calif.
Rapid Blood Urea Nitrogen Determination and Canine Blood Cross Matching Procedure.
C. E. Bild, Miami, Fla.
Fluid and Electrolyte Balance.
Maxine M. Benjamin, Fort Collins, Colo.

2:40 (85) Pleural Effusions of Cats.
J. J. Fishler, Elkhart, Ind.

3:00 (86) Panel—Respiratory Virus Infections of Cats.
Moderator—*Robert Cello, Davis, Calif.*
Major Robert A. Crandell, Washington, D.C.
Dieter Burger, Pullman, Wash.
James L. Bittle, Indianapolis, Ind.

3:45 (87) Handling and Treatment of Some of the More Common Exotic Mammals.
Werner P. Heuschele, San Diego, Calif., and Charles P. Gandal, New York, N.Y.

4:05 (88) Television—Repair of Lacerations of the Bovine Teat.
Demonstrator—*Robert A. Mutrux, Wheaton, Mo.*
Narrator—*E. F. Ebert, Columbia, Mo.*

4:30 Report of Nominating Committee.

4:35 Question and Answer Period.

4:45 Adjournment.

Combined Sections on General Practice and Surgery and Obstetrics

Thursday, August 27, 1959, 9:00 a.m.

Music Hall, Auditorium

E. F. Ebert, *Chairman* S. J. Roberts, *Secretary*

Third Session

9:00 (89) Artificial Insemination in Swine.
James E. Lovell, Ames, Iowa.

9:20 (90) The Present and Future of Artificial Insemination.
H. A. Herman, Columbia, Mo.

9:40 (91) Veterinary Problems in Artificial Insemination.
David E. Bartlett, Chicago, Ill., and Lester L. Larson, Madison, Wis.

10:20 (92) Epizootiological and Clinical Aspects of Bovine Paralytic Rabies in Mexico.
M. Ramirez, Valenzuela, Mexico, D.F.

10:35 Report of Nominating Committee and Election of Officers.

10:45 (93) Television—Boot Disinfection; Combined Vaccinating and Dipping Procedure for Swine; Treatment of Agalactia in Sows.
Demonstrator—*W. E. Boucher, Griswold, Iowa.*

10:55 (94) Television—Rapid Method of Pig Castration.
Demonstrator—*H. P. Callaway, Waverly, Mo.*

11:00 (95) Control of Infertility in Dairy Cattle Through Routine Genital Examination and Therapy.
Erwin M. Plocher, Watsonville, Calif.

11:25 (96) Routine Pregnancy Examination, A Practice Builder in Beef Cattle Practice.
L. M. Koger, Ontario, Ore.

11:50 Closing Ceremony and Adjournment

The Scientific Exhibits

The scientific exhibits at the Kansas City meeting have been furnished by several educational institutions and governmental agencies. They will be located in the Municipal Auditorium with the commercial exhibits.

All veterinarians are urged to visit these exhibits which are designed to portray important aspects of problems requiring the profession's attention.

Angiocardiography in Veterinary Medicine

Ellin Prince Speyer Hospital for Animals and
St. Clair's Institute for Medical Research

Angiocardiography is a new technique which visualizes the interior of the heart, vascular tree, and blood flow by x-ray, employing contrast mediums and a rapid sequence changer. This exhibit displays transilluminated x-rays with explanatory text showing the use of this method in the study of normal and abnormal dogs.

Application of Tissue Culture to the Study of Viral Cytopathology

Armed Forces Institute of Pathology

The purpose of this exhibit is (1) to show the steps used in the preparation of primary tissue cultures; (2) to demonstrate the normal cellular morphology by the use of the basic stains, as well as some of the specialized histochemical stains of enzyme activity; and (3) to compare the cellular pathology resulting from some virus infections produced *in vitro* with those *in vivo*. A time flow in the overall process is depicted, starting with the preparation of cultures, carrying through the study of the normal, and finally the abnormal. Color transparencies are used throughout the exhibit.

Circle of Defense

Animal Inspection and Quarantine Division, Agricultural Research Service,
United States Department of Agriculture

This exhibit explains various methods of protection against the entry and spread of foreign animal and poultry diseases into the United States.

Diseases Transmitted from Animals to Man

American Medical Association

Different diseases that may be communicated from animals to man are depicted in this exhibit.

Diseases of Animals Transmissible to Man

University of Missouri
School of Veterinary Medicine and School of Medicine

The theme of the exhibit will be on the diseases of animals transmissible to man with emphasis placed on leptospirosis.

Early American Veterinary Works

American Veterinary Historical Society

On display will be an exhibition of late 18th century and early 19th century works on veterinary medicine and farriery, from collections of members of the American Veterinary Historical Society.

Epidemiology of Food-Borne Diseases

United States Air Force Medical Service

This exhibit will consist of color transparencies and illustrations showing common agents which cause food-borne diseases and their relation to

animal host, and environmental conditions contributing to contamination or adulteration of prepared food.

Erythropoietic Porphyria in the Bovine

University of Minnesota, College of Veterinary Medicine

This will be a display on congenital erythropoietic porphyria in the bovine animal as an example of a photodynamic disease. Specimens of urine, bones, and teeth from actual cases will be used to demonstrate absorption and fluorescence from irradiation in the Soret band. Photographs of clinical cases, pathological lesions, and fluorescent normoblasts will be exhibited.

Farm Repopulation with "Disease-Free" Swine

University of Nebraska, Department of Animal Pathology and Hygiene

"Disease-free" pigs are obtained from sows two to four days prematurely by hysterectomy. They are raised on cow's milk four weeks, then grown to maturity on farms without contact with other pigs. Offspring from gilts raised in this manner on primary farms are used to restock secondary farms with "disease-free" pigs.

Germfree Animals—a Research Tool

National Institutes of Health, Division of Research Services

Photographs, sketches, and printed matter are shown which depict many of the important aspects of the following general areas of gnotobiotics:

a) Uses of gnotobiotes (including germfree animals) in medical research.

b) Procedures used in gnotobiotic technology.

Internal Parasites of Dogs

American Veterinary Medical Association

This is the exhibit which won the AVMA Science Youth Award at the 10th National Science Fair. Specimens, schematic diagrams of life cycles, and host-parasite relationships were developed by 16-year-old Wilhelm Delano Meriwether, Charleston, S. Car. (see photo, *J.A.V.M.A.*, July 1, 1959, page 81 and adv. p. 45).

Leptospirosis in the Americas

United States Army Veterinary Corps

A map of the Americas will show the distribution of leptospirosis by serotype within human and animal hosts, directing attention to the widespread distribution of the organisms, the numerous serotypes to be considered in epidemiological investigation, and the need for further information in large segments of the hemisphere. The role and activity of the Walter Reed Army Institute, as the WHO-FAO Reference Laboratory for the western hemisphere, will be depicted. This includes the maintenance of stock culture collection of type strains, available guides to laboratories in setting up diagnostic facilities, evaluation of new methods of diagnosis, exchange of current information with other laboratories, and joint cooperative efforts with the Pan American Sanitary Bureau and WHO reference laboratories in other parts of the world. Color transparencies show the natural reservoirs and hazards of infection.

Neoplasia, a Radiographic Study

Colorado State University, College of Veterinary Medicine

On exhibit will be a display of radiographs depicting the appearance of both primary and metastatic neoplasms of different tissues and organs.

Parasite Eradication Exhibit (Screwworm)

United States Department of Agriculture, Agricultural Research Service, Animal Disease Eradication Division

This is the same screwworm exhibit shown at the International Conference of Peaceful Uses of Atomic Energy, Geneva, Switzerland, in September, 1958. The exhibit depicts steps in the process of raising, sterilizing, and releasing sterile male screwworms over infested regions of the southeastern United States. If the sterile male mates with the mating females, the eggs from such matings will not hatch.

Pathogenicity of Canine Distemper

Margaret M. Caspary Institute for Veterinary Research

The most notable feature of canine distemper infection is the polytrophic nature of the virus invasion. The lesions occur in widely divergent tissues. The exhibit demonstrates this feature of the disease, as studied by means of fluorescent antibody and more conventional microscopy, by the use of transilluminated color photographs and accompanying text.

Poultry Inspection—U.S.D.A.

United States Department of Agriculture, Agricultural Marketing Service, Poultry Division

This free-standing exhibit shows how veterinarians inspect individual birds for wholesomeness as the birds pass on the evisceration line.

Rabies

U.S. Department of Health, Education & Welfare, Public Health Service, Bureau of State Services, Communicable Disease Center, Veterinary Section

A current study of the epidemiology of rabies in animals and man in the United States is briefly pictured. Principles of pathogenesis and diagnosis are outlined. Newer findings are highlighted and basic control tools stressed.

The Role of the Veterinarian in Laboratory Animal Medicine

National Academy of Sciences, National Research Council Institute of Laboratory Animal Resources

This exhibit will consist of mounted photographs and drawings depicting important diseases of laboratory animals and the role of the veterinarian in their elimination. Literature on this subject will be available for distribution. A small library of experimental animal disease texts will be maintained.

Scientific Detection Methods

United States Department of Agriculture, Agricultural Research Service, Meat Inspection Division

This exhibit, consisting of five panels, will illustrate the scientific detection of radiation, toxic residues, rodent contamination, bacteria, and disease in the meats and meat products prepared under federal meat inspection.

The U.S. Army Veterinary Corps Supports the Missileman

United States Army Veterinary Corps

This exhibit consists of a three-dimensional terrain in which models of the Nike-Hercules, Jupiter, Redstone, Dart, etc., missiles will be shown in an operational situation. The exhibit will also contain color transparencies and descriptive copy depicting the U.S. Army Veterinary Corps performing its mission, *i.e.*, providing support to personnel and animals used on missile installations.

The Cell: Miniature of Cell in Museum of Science and Industry

The Upjohn Company, Kalamazoo, Michigan

A smaller version of the plastic model of a human cell, first exhibited at the American Medical Association annual meeting last year, and now on display in the Museum of Science and Industry in Chicago, will be presented as a special feature of the AVMA scientific exhibits.

The Zoonoses in the Americas

The Pan American Health Organiaztion, Regional Organization for the Americas of the World Health Organization

This exhibit illustrates the activities of the Pan American Zoonoses Center and highlights the work against zoonoses under progress in countries of the Americas.

AVMA Student Auxiliaries

Colorado State University

Our exhibit urges members of the AVMA to "Rush to the Rockies for the 1960 AVMA Convention."

University of Georgia

The Women's Auxiliary to Student Chapters of the AVMA presents, "On the Trail to Georgia Auxiliary Activities;" a program which portrays the various activities of the auxiliary during the past year.

Kansas State University

The first student auxiliary presents, "Veterinary Firsts," a collection of discoveries, inventions, and ideas first used by veterinarians, and now widely used by lay persons and the medical profession.

University of Minnesota

A setting of three-dimensional figures and photographs portraying highlights of programs presented to the AVMA Student Auxiliary at Minnesota during the 1958-1959 school year are shown in this exhibit.

University of Missouri

The Women's Auxiliary to the Missouri Student Chapter of the AVMA presents an exhibit of the activities of the auxiliary and the student chapter.

Oklahoma State University

An exhibit of the club yearbook, scrapbook, newsletter, and pictures will be presented by the Women's Auxiliary to the Student Chapter of the AVMA.

State College of Washington

"Preparation for the Launching of a Career in Veterinary Medicine," presented by the Women's Auxiliary to the Student Chapter of the AVMA, utilizes a rocket ship and component parts to symbolize the progress of the veterinary student through professional training. Four stages within the silver frame of the rocket represent the years of professional schooling. An elaborate ladder enumerates the extracurricular activities and social life, while the base symbolizes preveterinary preparation.

The Commercial Exhibits at Kansas City

The Commercial Exhibits to be presented at the Ninety-Sixth Annual AVMA Convention is the largest and most diversified showing of veterinary products and technical developments yet displayed.

The exhibits will be located in the Exhibition Hall/Municipal Auditorium, and we urge all veterinarians to take full advantage of the many fine displays.

In addition, the American Veterinary Exhibitors Association will again sponsor prizes, which has become a feature of the commercial exhibits at AVMA conventions. Be sure to obtain your tickets at the time of registration.

Again—Visit and enjoy the Commercial Exhibits.

Abbott Laboratories

Booth 53

The exhibit of Abbott Laboratories at the AVMA meeting this year will include displays and information on Vetrophin, a true pituitary gonadotrophin, Seleen Solution for control of seborrheic dermatitis and nonspecific dermatoses, and Abbott's intervenous fluids for "In-Kind" fluid replacement therapy.

Alcon Laboratories, Inc.

Booth 100

On exhibit will be Alcon's sterile ophthalmic preparations particularly suited to veterinary needs, and featuring the new Alcon publication, "Veterinary Ophthalmology," by Dr. Russell J. Beamer of Texas A. & M. College. An Alcon representative will be at the exhibit, and product samples and literature will be available.

American Cyanamid Company—Veterinary Professional Service Department

Booths 25, 26, and 27

The 30-foot Veterinary Professional Service Department exhibit of American Cyanamid Company will show the many Cyanamid-developed products sold to veterinarians throughout the world. The booth will be staffed by: Dr. Robert Burkhart, Dr. Victor Cabasso, Dr. Lawrence Groves, Mr. B. M. Zillman, and Dr. Juan Figueroa.

American Optical Company, Instrument Division

Booth 105

American Optical Company, Instrument Division, of Buffalo, N.Y., will display and demonstrate a wide variety of precision optical instruments. Featured will be the AO Spencer Cycloptic Stereoscopic Microscopes. Representative models of the popular Microstar Laboratory Microscopes, the AO Spencer Hb-Meter and the Ful-Vue Diagnostic Instruments Sets will be shown. Company representatives in attendance will welcome your visit.

American Sterilizer Company

Booth 90

Featured in this display of sterilization equipment will be three types of autoclaves: Model 613-R, the finest in quality workmanship; Model 8816, square in size (8 by 16 in.) and designed for increased loading capacity; and Model 1022, the unit for clinics or centralized sterilization. Ten inches square, this autoclave requires no plumbing connections and is completely automatic. Also demonstrated will be the A 416-S portable sterilizer.

Ames Company, Inc.

Booth 41

Featured at the Ames Company exhibit will be the latest developments in new, simplified diagnostic products, which are adaptable to routine examination and patient management. The many advantages of the new diagnostic products are quickly demonstrable, and you are cordially invited to stop at the Ames booth to see them.

Animal Cage Specialties Company

Booth 106

A completely new stainless steel animal cage made of heavy gauge 302 stainless steel, or eighteen-eight, as known to the trade, will be demonstrated. It has a completely smooth interior with radius on all corners, and is mounted on cold rolled steel frames for easy stacking. The tubular stainless steel gate can be removed for easy cleaning.

Armour Pharmaceutical Company, Veterinary Department

Booths 23 and 24

The exhibit will feature a select group of veterinary specialties to assist the veterinarian in maintaining a strong animal health program. Products displayed will consist of a number of firsts in the industry such as P.O.P., Purified Oxytocic Principle; Antrate-H.C., Hog Cholera Antibody Concentrate; and Kymar, anti-inflammatory enzyme.

Arnold Laboratories

Booth 51

Arnold Laboratories will feature a complete line of large and small animal pharmaceutical products for discriminating practitioners who "Always Order Arnold."

Astoria Body Corporation

Booths 12 and 13

Veterinarians' Mobile Service Bodies, the ultimate in modern veterinary practice, will be displayed. Designed by veterinarians for veterinarians, everything is with you where and when it is needed. Dust and weather-resistant doors, hot water system, dome light in each compartment, the heavy duty bumper trailer hitch, plus many other features, will be shown.

Cameron Surgical Instruments Company

Booth 61

Cameron shows its all new line of electro-surgical units, including their new powerful 60 Model. Cameron electro-surgical units are ideal for anal gland, entropion, teat surgery, and many more surgical techniques. Safe and practical, it is the ideal unit for the large or small animal practitioner. Also shown will be a complete line of diagnostic equipment. Cameron representatives will welcome your visit to their booth.

Carnation Company

Booth 71

Friskies Pet Food Division, Carnation Company, will have a display of their complete line of pet foods. Representatives will be in attendance to explain the advantages of Friskies and accept requests for the various services offered to veterinarians.

Chicago Pharmacal Company

Booth 89

Featured at this display will be Urised, a dual action tablet for all urinary tract infections of small animals. Urised tablets contain agents of proved efficacy in overcoming genitourinary infection and painful smooth muscle spasm. It is the drug of choice for treatment of small animals. Also on display will be Lobascon, an effective antitussive agent in tablet form for treating the acute cough associated with bronchitis, laryngitis, distemper, and other respiratory conditions of the dog. Canitone, a tablet combination of androgen and estrogen coupled with metabolic regulators for dogs of all ages, will be exhibited. Canitone has been formulated specifically to counteract the deficiencies commonly encountered in debilitation due to surgery, trauma, infection, or old age.

Ciba Pharmaceutical Products Inc., Summit, New Jersey

Booths 29 and 30

This exhibit features Ultracortenol, a long-acting glucocorticoid for the treatment of lactation ketosis, small animal dermatoses, and inflammatory joint conditions. Representatives will be happy to discuss the use of this product, as well as other specialties.

Corn Belt Laboratories, Inc.

Booth 83

The Corn Belt Laboratories, Inc. extends a cordial invitation to all in attendance to visit its exhibit booth. On display at the booth will be the newest veterinary biological and pharmaceutical products as produced by the Affiliated Laboratories Corporation and Corn Belt Laboratories.

Corn Products Company—Kasco Division

Booth 39

Free literature on feeding of dogs and "Canine Needs in Nutrition" will be available to the veterinarian.

Corn States Laboratories, Inc.
Subsidiary of Eli Lilly and Company

Booths 7 and 8

On display will be Brevane short-acting anesthetic, Dizan canine anthelmintic powder, Seratrate hog cholera antibody concentrate, Duragen modified live culture erysipelas vaccine, and possibly other new additions of interest to the veterinary practitioner. A featured portion of the display will depict the extensive Lilly veterinary research program.

Curts Laboratories, Inc.

Booth 85

Dr. Curts will be in attendance at the exhibit to display and to discuss with you many new pharmaceutical preparations, as well as "old line stand-bys," compounded especially to meet the needs of the clinical practitioner of veterinary medicine.

Diamond Laboratories Co.

Booths 75 and 76

A full line of small and large animal biological and pharmaceutical products will be displayed featuring NeoVac, Diamond's new exclusive erysipelas bacterin with NeoJel (2 cc. dose), and leptospirosis bacterin with JeoJel

(2 cc. dose). Also featured will be Diamond's new injectable complex iron, Feraject, 100 mg. elemental iron per dose. A complete line of Hauptner (German) instruments will also be displayed.

Lester A. Dine Co.—Medical Photo Division

Booth 56

We are introducing to the AVMA the new sensational Eastman Kodak Startech camera. This is the inexpensive camera that enables anybody to take an extremely close-up picture without the knowledge of photography. In addition, we will be showing the latest in projection and viewing systems. Clinical photography is our specialty.

Doho Chemical Corporation

Booth 45

On display at the Doho booth will be: Auralgan, for medication in otitis media and removal of cerumen; Otosmosan, a fungicidal and bactericidal agent for use in the suppurative and aural dermatomycotic ears; Rhinalgan nasal decongestant, free from systemic or circulatory effect; and Larylgan, throat spray and gargle for infectious and noninfectious sore throat involvements. The Mallon Chemical Corporation, Division of Doho, will exhibit Rectalgan, for relief of pain and discomfiture in hemorrhoids, pruritus, and perineal suturing; and Dermoplast, an aerosol spray for surface pain, burns, and abrasions, and for obstetrical use.

Drug Publications, Inc.

Booth 63

The new, completely rewritten seventh edition of "The Veterinary Drug Encyclopedia and Therapeutic Index" will be on display. This edition has been enlarged to over twice the size of the original edition and contains numerous improvements and changes, including a feed additives section. We invite your inspection and suggestions.

Eaton Laboratories

Booths 111 and 112

For mastitis of dry and lactating cows, the new exclusive Squeejet single dose dispenser for Furacin Solution Veterinary, delivers one full dose. It is discarded after use; saves time; and is convenient, especially when a number of cows are to be treated. Effective in urinary tract infections of small animals and in canine tracheobronchitis is Furadantin Ora-Bols Veterinary—a new exclusive veterinary dosage form, pleasant tasting, easily administered and readily retained.

Edwards Veterinary Supply Co.

Booth 108

Edwards Veterinary Supply Co. will display its own labeled line of pharmaceutical formulations, and its personnel will be present to discuss all other lines which are distributed by them. Veterinary instruments, equipment, and supplies will also be displayed with the demonstration of oxygen equipment to be featured.

Eisele & Company

Booth 94

Eisele & Company would like to invite you to our booth to learn of our direct selling policy which means a money savings to you. Eisele & Company

is happy to display their regular line of hypodermic syringes, both the regular and interchangeable types; veterinary type syringes with the metal frame; metal plungers; and rubber plunger types. Also shown will be hypodermic needles, clinical thermometers, Eco bandage, and other associated items.

Encyclopaedia Britannica, Inc.

Booth 5

Encyclopaedia Britannica announces with a great deal of pride the release of the 1939 Edition—complete with new population figures based on the latest governmental census, together with many new illustrations and completely new articles of special current interest. This truly is an important edition of the world's finest reference work. It is the biggest revision of Encyclopaedia Britannica in over 25 years.

Ford Kennel Equipment

Booth 109

Ford stainless steel animal cages, the finest, most highly polished metal available, are built with loving care that will make them last a lifetime, and are a really fine investment for the future. Also on display will be our solid zinc metal animal cages, galvanized prefabricated animal fencing, dog dryer units, and many more. Financing is available to veterinarians.

Fort Dodge Laboratories, Inc.

Booths 81 and 82

Our exhibit will feature Nolvapent—new wide-spectrum eye and ear ointment for both large and small animals; Dictycide—widely-publicized treatment for lungworm infection; Halsan—new nonexplosive vaporizing anesthetic; M-L-V—the original live virus hog cholera vaccine; and other biological and pharmaceutical products for large and small animals.

Fromm Laboratories, Inc.

Booth 72

Fromm Laboratories will display their quality line of biological products including their new infectious canine hepatitis vaccine, tissue culture origin; hog cholera vaccine, rabbit origin; and erysipelas bacterin.

Gaines Dog Food

Booth 32

The Gaines booth will consist of a small display of Gaines Meal, miniature sample packages of Gaines Biscuits for distribution to booth visitors, and printed material outlining details of a feeder plan which reduces Gaines Meal prices to members of the veterinary profession.

Goshen Laboratories, Inc.

Booth 11

Goshen displays their own and other manufacturers' products, including autoclavable urethral and ureteral catheters, endotracheal tubes, surgical repair mesh, Boyd's Cattle Lifter Sling, Cadillac Hoist-Winch, "plastic concrete," Cary Clinical Thermometers, disposable surgical packs, Dura-Weve Sheeting (regular and bacteriostatic), Nilodor, Y-Mycin, GHP Carbamide, dependable dog dryer, and several other items.

Great Ideas Program

Booth 107

The Syntopicon, developed by the University of Chicago, indexes man's ideas on virtually all subjects in all fields.

Hamilton Pharmacal Company, Inc.

Booth 84

The latest developments in pharmaceutical products for treatment of bovine mastitis will be shown. An experienced veterinarian will be at the HP booth to discuss the products and offer advice concerning treatment of mastitis.

Haver Lockhart Laboratories

Booths 14, 15, and 16

The Haver Lockhart exhibit features latest developments in biological and pharmaceutical products, instruments, and diagnostic aids for the veterinary profession.

Heldenbrand & Son Manufacturing Co.—Silver King Products

Booth 97

Veterinarians everywhere are enjoying the use of the world famous Silver King Chute. Constructed for the roughest type of usage, outstanding features are: it is highly portable, it has an automatic wheel locking device, telescopic tongue, new tubular construction, front and side exits, and it has a lower neck piece adjustable vertically which folds forward to the floor level.

Hill Packing Company—Prescription Diets Department

Booth 49

At the Hill booth will be displayed Prescription Diets—scientifically designed dietary foods for dogs and cats available through veterinarians only: K/D for mature dogs; P/D for growing puppies and for bitches during gestation and lactation; I/D for intestinal disorders; R/D for reducing obese dogs; C/D for mature and growing cats; and F/D—a basal mixture for preparing specific individual dietary menus.

Iowa State and Cornell University Presses

Booth 59

Featured at this booth will be authoritative and outstanding books for veterinarians, including the most recent editions of such widely known titles as: Biester and Schwarte's "Diseases of Poultry," Dukes' "Physiology of Domestic Animals," Dunne's "Diseases of Swine," Hagan and Bruner's "Infectious Diseases of Domestic Animals," Jones' "Veterinary Pharmacology and Therapeutics," and Mason's "Bibliography of the Dog."

Dr. S. Jackson

Booth 74

This exhibit will feature: Coecolysin, the world's only veterinary preparation containing peristaltic hormone; Otrhomin, bactericidal, colloidal pole reversing, antiallergic and *gamma* globulin reversing; Electromagnetic Metal Detector, brand new model with both optical and acoustical indications; Self-Expanding Teat Dilator, not a teat plug but a surgical instrument; Vetafil, the new synthetic surgical suture every veterinarian knows about; Perlon OB Ropes, superior to chains; and new rust-proof OB wire and OB wire saw handles.

Jensen-Salsbery Laboratories, Inc.

Booths 17, 18, and 19

Jen-Sal's display will feature the recent, exclusive products of their biological and pharmaceutical research, including a new smooth muscle relaxant, a new pink eye and wound dressing therapeutic, and a specific therapy for ringworm. The newer and more popular hospital equipment and surgical supplies will be on display.

Kirschner Manufacturing Company

Booth 64

Kirschner Manufacturing Company invites all those attending the convention to visit our exhibit. We will be showing the latest in glass plastic animal cages, fracture equipment, and surgical instruments.

Knoll Pharmaceutical Co.
(formerly Bilhuber-Knoll Corp.)

Booth 37

Visit the Knoll exhibit of Metrazol, Octin, Quadrinal, Theocalcin and other clinic-proved drugs. Learn of additional indications for the Knoll preparations you now use, and meet other Knoll products that are equally deserving of inclusion in your armamentarium of useful everyday drugs.

Lea & Febiger, Publishers

Booth 46

Lea & Febiger cordially invites you to visit their booth and examine the following books: Smith and Jones: "Veterinary Pathology"; McGrath: "Neurologic Examination of the Dog"; Miller: "Meat Hygiene"; Barger, Card and Pomeroy: "Diseases and Parasites of Poultry"; Card: "Poultry Production"; Brumley: "Diseases of the Small Domestic Animals"; and other titles of interest to veterinarians.

E. Leitz, Inc.

Booth 121

We will be showing our latest fluorescent microscopes for routine and research work. This will include the new Leitz Ortholux, the new Labolux, and also the latest model Panphot Microscope. A representative will be in a position to answer any questions and make recommendations with regard to the use of this equipment.

Arthur E. Look, Inc.

Booth 54

Arthur E. Look, Inc., manufacturers of sutures, ligatures, and suture needle combinations for over 23 years, will exhibit representative items of its entire line. Featured will be samples of Vet-Pak sterile surgical gut sutures. These sutures are completely absorbable and were introduced for the first time at the last AVMA convention.

The S. E. Massengill Company

Booths 91 and 92

The Massengill exhibit will feature the well-known Daribiotic family of products. Daribiotic, available in practical dosage forms, is a synergistic combination of Neomycin and Polymyxin B which extends the bactericidal action well beyond the limits of either antibiotic. The broad spectrum of

effectiveness has been reported authoritatively in numerous published clinical studies. Because Daribiotic is bactericidal, resistant organisms have little opportunity to develop. Convenient dosage forms for the treatment of small and large animals broaden the usefulness of Daribiotic.

McCabe-Powers Body Company

Booths 42 and 43

The McCabe-Powers Body Company will exhibit their Service-Master Body, which is ideally suited for use by veterinarians engaged in general practice. The Service-Master All-Purpose Body allows efficient and orderly storage of medicines and supplies, and functions as a well-equipped mobile veterinary clinic.

Medical Coaches Inc.

Booths 66, 67, and 68

Our exhibit features a Seminole Mobile Veterinary Dispensary mounted on the latest model International chassis. Veterinarians will have the opportunity to inspect its many features and realize why owners say it saves them 15 to 20 minutes on every call, and makes their practice more pleasant and efficient.

Merck & Co., Inc.

Booths 1, 2, 3, and 4

The Merck exhibit presents the story of new Sulfabrom, the exceptionally potent, long-lasting sulfonamide, available exclusively to veterinarians. Sulfabrom is effective against a full range of infectious diseases, yet its single-dose therapy is sulfa-low in cost. Also featured are other Merck veterinary products: steroids, biological and pharmaceutical products, antibiotics, anesthetics, and diuretics.

Miller Surgical Co.

Booth 48

See the Miller Electro-Scalpel and other electro-surgical units with snares, suction-coagulation attachments and other special accessories. These cutting, coagulating, and desiccating units, with or without spark gap, are calibrated to do the most delicate work as well as light major surgery. Also on display will be illuminated otoscopes, eyespud with magnet, ophthalmoscope, transilluminating lamps, bronchoscopes, gastroscopes, grasping forceps, vaginal-rectal speculum, plastic utility lamp, reflecting headlite, battery handle, reelostat, and the new coiled cords.

Monroe Specialty Company

Booth 55

On exhibit will be Monroe's complete line of Dog Jewelry identification tags, the finest finished chrome plated tags made. Visit our free counter display. All tags are guaranteed, liberal profit, one day service. See our line of rabies tags.

Motorola, Communications & Electronics Inc.

Booth 50

Motorola will, as usual, display the most modern two-way radio equipment for the veterinarian. The new Motorola "Motrac" two-way radio with completely transistorized power supply and completely transistorized receiver will be on display to veterinarians for the first time at an AVMA conven-

tion. In addition to a substantial decrease in the battery drain because of the transistors used in this set, there is also a built-in reliability that cannot be contested.

National Cylinder Gas—Division of Chemetron Corporation

Booth 101

NCG will exhibit the new Anesthetizer-Vaporizer-Resuscitator unit, along with a new concept in oxygen therapy cage units, a new disposable package for the NCG deodorant, and large animal anesthesia accessories.

The National Laboratories Corporation

Booth 28

The National Laboratories Corporation exhibit will feature National pharmaceutical products, Affiliated Laboratories biological products, and National anti-hog cholera serum.

Nelson Laboratories

Booth 6

Nelson Laboratories will display a cross section of Nelson products and allied lines, including the new Totamins and famous Rucara powder, plus some of the newest packaging ideas being used for other popular Nelson items. Some new and imported veterinary instruments will also be displayed. Mr. O. W. Nelson will attend to greet his many friends in the veterinary profession.

Nicholson Manufacturing, Inc.

Booth 52

In addition to our regular line of "Precision Veterinary Equipment," we will this year make a special feature of the complete equipment necessary for the testing of breeding potential of bulls and rams. Other new items on display will be an electronic "Hardware Detector" and a tattooing device for the treatment of "Collie Nose."

Norden Laboratories

Booths 95 and 96

Iomycin, the unique parenteral antibiotic that provides special affinity for respiratory and mammary tissues—and EVA, with millions of doses attesting to its superiority in controlling swine erysipelas—will be featured at the display bearing the Viking Ship trademark. We'd like to tell you about these and many other exclusives including our sales policy—"Veterinarians are our business, our only business!"

Parke, Davis & Company

Booth 65

Parke, Davis & Company welcome all veterinarians to visit their booth where representatives will be available to discuss the many uses of Chloromycetin products, including their new water-soluble Chloromycetin Succinate. Also on display will be their ultrashort-acting anesthetic Surital Sodium, and their new sulfa, Midicel.

Pedrick Laboratories—Sand Springs, Oklahoma

Booth 98

Pro Special Diet Foods for dogs and cats will be featured. Included in the display are: L. P., a low protein diet; H. P., a high protein diet; G. I.,

gastrointestinal diet; L. C., a low calorie diet; and Pro Cat Food. These products are sold exclusively to the veterinary profession from plant to hospital.

Pfizer Laboratories

Booths 35 and 36

The Pfizer Laboratories' exhibit will introduce their latest convention unit. The display has been specifically arranged for your convenience and to give you the maximum in quick service and product information. To make your visit worthwhile, technically trained personnel will be on hand to inform you of the latest developments in Pfizer Research.

Philadelphia Ampoule Laboratories, Inc.

Booth 125

P.A.L. will exhibit its exclusive product, Ferropal-50, a brand of iron dextran. This injectable product, containing 50 mg. of elemental iron per cc., prevents iron anemia and fosters rapid, healthy growth in suckling pigs.

Pitman-Moore Company

Booths 87 and 88

Allied Laboratories, Pitman-Moore Division, invites all of those attending the AVMA Convention to visit booths 87 and 88, featuring pharmaceutical and biological products of interest to the profession. As in the past, closed circuit television receivers will be on hand for your viewing.

Professional Veterinary Services, Inc.

Booth 62

On display will be oxygen respirators utilizing the Burns Valve, both ether and "Fluothane" anesthesia units, small and large animal designs. All types of endotracheal and urethral catheters will be included in this exhibit, with inhalation masks and accessories. We are introducing "Fluothane" anesthesia units for large and small animal usage. "Fluothane," a potent, nonexplosive anesthetic agent, offers surgical advances in veterinary anesthesia.

The Quaker Oats Company—Pet Foods Division

Booth 73

The Quaker Oats Company is pleased to present the following pet foods: Ken-L-Ration, inspected and certified by U.S.D.A. as a normal maintenance dog food; Ken-L-Biskit Kibbled (small broken pieces), "The Dog Food of Champions;" Ken-L-Meal, the complete dog dinner; Ken-L-Treats, with six individual shapes, colors, and flavors: meat, milk, eggs, cheese, and bone; Ken-L-Burger, a high meat protein, vitamin, and mineral supplement; and Puss 'n Boots, a balanced-diet food for cats, containing whole fish.

Ralston Purina Company

Booth 57

The Ralston Purina Company booth shows that through farm research, laboratory research, manufacturer distribution, and dealer distribution of products, Purina can provide a service in every phase of animal agriculture over the entire country.

Randall Faichney Corporation

Booth 38

The Randall Faichney Corporation will present their complete line of Dura Viking, Imperial Viking, all metal and leather-packed syringes. Featured will be the new and modified Imperial-Vikomatic Syringe. Here's a new syringe offering the interchangeability of the Imperial Viking barrel and piston assembly, but with Vikomatic unit added. A full line of precision needles will also be displayed.

Ranger Equipment Company

Booths 69 and 70

The Ranger booth will feature modern pork production systems, telling of producing hogs under pushbutton conditions. Also, schedules of modern pork production schools and details of the swine encyclopedia will be given. Ranger squeeze chutes for veterinarians will also be featured.

Research Laboratories, Inc.

Booths 20, 21, and 22

"Better Products Through Research" will be evident when you visit the Research Laboratories, Inc. exhibit. In attendance will be personnel from the research production and sales staff to familiarize you with outstanding new products. Included will be Quatra Sera, Ker-O-Jet, IBR Vaccine, Elfaro-Dex, GP-100, and D.G.P. As always, our products are developed to solve the specific problems of the veterinarian.

Sani-Cage Distributing Company

Booth 104

Sani-Cage Distributing Co., originators and developers of the high quality line of Sani-Cages, will be featuring their newly designed models of both stainless steel and galvaneal cages, with improved interior design eliminating seams and with improved latching mechanism, reducing difficult door cleaning. See the new Super Sani-Dryer. At the booth to greet you will be Larry Kahme, A. C. Morgan, and Howard Bymel.

Schering Corporation

Booths 77, 78, 79, and 80

Schering Corporation cordially invites you, your family, and friends, to visit the Schering exhibit, booths 77, 78, 79, and 80. Various Schering veterinary specialties will be on display, including our new antidiarrheal preparation Diathal; a new topical steroid-antibiotic, Meti-Derm w/Neomycin Aerosol; and a new, more potent corticosteroid, Azium.

Schroer Manufacturing Company

Booth 99

"Shor-Line" invites all those attending the AVMA Convention to visit the display of instruments, kennels, and operating tables. Of particular interest will be the new operating table with stainless top and base; and the versatile animal cages, with new and exclusive features, which are easily adaptable to individual or small hospital use.

Shank's Machine Company

Booths 119, 119A, and 120

The Shanks Machine Company will show slides on the Douglas Tilt-Master Table and its uses, and a map with the names and locations of table owners.

There will be on display picnic tables, scale models of picnic tables, and ping pong tables for the home.

E. R. Squibb & Sons

Booths 33 and 34

E. R. Squibb & Sons has long been a leader in development of new therapeutic agents for prevention and treatment of disease. The results of our diligent research are available to the medical profession in new products or improvements in products already marketed. At E. R. Squibb & Sons booth, we are pleased to present up-to-date information on these advances for your consideration.

Suburban Surgical Supply

Booth 47

Thank you for your overwhelming acceptance of our one piece, round corner stainless cages. Welcome, and enjoy the convention.

Swift & Company

Booth 86

Swift & Company's booth will feature the "Lickin' Good" dog foods—the two varieties of Canned Pard (Beef Flavor, Beef Gravy Added), and the new revolutionary dry dog food, Pard Crunchers. Members of the veterinary profession may also register for a supply of the "Care and Training" booklets.

Twin A. A. Cutlery Company

Booth 122

Twin A.A. Cutlery Company distributes all-metal TwinAlloy necropsy knives. The blades are rustproof and acid-resistant, with handles of spun aluminum. Both blade and handle will stand sterilization. We distribute over 350 other useful cutlery items, made of best quality steel, and tooled by skilled craftsmen.

The Upjohn Company, Kalamazoo, Michigan

Booths 9 and 10

The Upjohn Company cordially invites all those attending the AVMA Convention to visit their exhibit. Their representatives will welcome the opportunity to discuss the products available to the veterinary profession. Products that will be featured are Biosol, Special Formula No. 17900, and other pharmaceutical products of professional interest.

The Veterinarian's Financial Platbook

Booth 102

On display will be a new and different service to the veterinary profession—"The Veterinarian's Financial Platbook." This is a veterinary economic and investment guidance service which is designed to motivate and coach subscribers to improve their financial well-being and to plan their future with greater understanding and foresight.

Vet-Kem Laboratories, Inc.

Booth 103

Featured at the Vet-Kem booth will be a display of information and new products for tick control on dogs. Complete brochures on resistance in

ticks and fleas will be available. Also on exhibit will be specimens of tick eggs, and female and male ticks.

Veterinary Medicine

Booth 31

"Veterinary Medicine" will exhibit copies of recent issues and invite examination by those unfamiliar with this monthly publication. There will also be on display selected new books of interest to veterinarians. An attendant will be present to answer questions regarding your subscription and to accept new orders.

Vetro Body by Reading

Booths 113 and 114

The Vetro Body is a truck body especially designed for use by the veterinarian in making his calls on his patients. It is designed basically for large animal practice.

Vitamineral Products Co.

Booth 58

Since 1914, the Vitamineral Products Co. has been furnishing exclusively to the veterinary profession high quality calcium, phosphorous, vitamin, and trace mineral supplements. These products are now used by more than 8,500 graduate veterinarians. Stop at our booth for your copy of the latest edition (32nd) of the "V.P.C. Feed Formula Book."

W-W Manufacturing Company

Booth 117

W-W Manufacturing Company will be exhibiting the Portable W-W Cattle Chute, accepted and used by veterinarians throughout the United States and Canada. The Chute is known for its simplicity and ease of operation, and also its rugged safe tubular construction. W-W features the automatic head adjuster, the side exit, and detachable portable accessories. See us at the convention.

The Warren-Teed Products Company

Booth 93

An expanding service to the graduate licensed veterinarian—exclusively—keynotes Warren-Teed's specialty product offerings to you. Featured products include the outstanding hemostatic agent, Klot; a multipurpose skin preparation, Polyderm; and Tympacaine, a powerful, unique formula for the treatment of otic infections. Warren-Teed representatives will welcome all veterinarians who visit their display.

The Williams & Wilkins Company

Booth 110

Williams & Wilkins features an outstanding list of British and American veterinary books as well as books in medicine, science, and public health. A Williams & Wilkins editor is present to discuss manuscripts with prospective authors.

Wilson & Company, Inc.

Booth 44

Wilson & Company, Inc. invites you to visit its booth during the AVMA Convention. On display will be Ideal Dog Food, Robust Dog Food, and 4-Paw Dog Food. Also available will be valuable and complete information concerning all your feeding problems.

Winthrop Laboratories

Booth 60

Winthrop Laboratories will feature Milvonique, the new skin preparation for the treatment of sarcoptic and demodectic mange. Also included in the exhibit will be Phisohex, antiseptic non-irritating detergent; Roccal, a dependable disinfectant; Neoprontosil, the original injectable sulfonamide; Aricyl, injectable arsenical; Delegon Improved, improved antiseptic dusting powder; and Demerol, analgesic and spasmolytic.

Wyeth Laboratories

Booth 40

Wyeth will feature Sparine, the effective agent for controlling agitation in all animals. With Sparine, nervousness, excitability, tension, and unruliness are controlled. Sparine is a safe preanesthetic agent. Animals given Sparine are easy to handle and remain steady on their feet, even in transit.

Wynkoop Horn Saw Company

Booth 118

This exhibit will feature the Kyne-Saw, an electric dehorning saw, and the Kyne-Snap, a new quick-release nose snap. A film will be shown demonstrating a new wound dressing and its application following dehorning.

Late Arrivals

American Breeders Service

Booth 124

American Breeders Service of Chicago, Ill., cordially invites you to visit Booth No. 124, featuring the most modern and practical concept of dairy and beef bull semen handling in artificial breeding. We would like to tell you about the possibilities of incorporating artificial breeding with your veterinary practice. The new liquid nitrogen refrigerator will be on display.

Courtesy, Hawaii Visitors Bureau

Fig. 1—Diamond Head—Hawaii's most distinguished landmark.

Veterinary Medicine in Hawaii

ERNEST H. WILLERS, D.V.M.

Honolulu, Hawaii

Hawaii, soon to become the fiftieth state, is probably best known for its moderate climate, beautiful scenery (fig. 1), and hospitality to its visitors; it also has an enviable reputation for its control of diseases of animals, especially rabies, for which much credit is due to the Division of Animal Industry.

History of the Division of Animal Industry

The Division of Animal Industry, Board of Agriculture and Forestry, Honolulu, Hawaii, was established by act of the Territorial Legislature on April 26, 1905. The Board had been established in 1903. The enabling act provided for a superintendent of the Division of Animal Industry to be known as the "territorial veterinarian" and for an unspecified number of inspectors. However, the 1905 legislature failed to appropriate sufficient funds for the salaries of all these positions. However, the federal government and the Hawaiian Live Stock Breeders' Association jointly engaged the services of Dr. Victor A. Norgaard to act as the U.S. inspector of animals for the Territory of Hawaii, veterinary advisor to the Breeders' Association, and superintendent of the Division of Animal Industry, under the title of territorial veterinarian.

Dr. Norgaard had served as pathologist with the Federal Bureau of Animal Industry. He was also a linguist of distinction, taking delight in reading direct translations of the European veterinary literature to his American colleagues.

Dr. Willers is territorial veterinarian, Division of Animal Industry, Board of Agriculture and Forestry, Honolulu.

Fig. 2—View of large animal corrals of the animal quarantine station in Honolulu.

In 1905, tuberculosis of cattle and glanders of horses were both prevalent and many imported animals were infected with these diseases when they arrived in Hawaii. Regulations were, therefore, adopted requiring the quarantining (fig. 2) and testing of all cattle, horses, and mules imported into the Territory. Also, testing of local livestock to eliminate the infected animals within the Territory was advocated.

Two other diseases were of considerable economic importance. Perhaps the greatest loss was caused by a deficiency disease which resulted in the stunting of locally raised cattle, sheep, and horse stock. This disease, called "osteomalacia" in cattle and sheep and "osteoporosis" in horses and mules, was caused by a deficiency or an imbalance between the calcium and phosphorus elements in the soils and grasses. Dr. Norgaard experimented with the feeding of sterilized bone meal and other mineral supplements with excellent results.

The other economically important disease was sheep scab which, in Hawaii, was complicated by fly strikes of the sheep maggot fly (*Calliphora dux* Eschscholz), often resulting in blood poisoning and death of the animal. A campaign to eradicate the disease was inaugurated in 1905.

The early reports of the Division of Animal Industry covered other important diseases such as hog cholera, actinomycosis or "lumpy jaw" of cattle, infectious keratitis in cattle, and epizootic lymphangitis in horses. Far greater significance, however, was attached to the fact that a number of important diseases known to occur on the mainland had not as yet been introduced into Hawaii. Among these diseases the most feared were contagious pleuropneumonia, Texas fever, anthrax, blackleg, and rabies. To prevent their introduction by imported animals, regulations were adopted and a system of quarantine was instituted. Animals were required to be tested before leaving the mainland and again before being admitted to the Territory. However, in 1917 and 1918, anthrax appeared on the islands of Kauai, Oahu, and Maui. Thorough investigation indicated that the disease was maliciously introduced as an act of sabotage although the evidence was not strong enough to permit prosecution of the saboteurs. Despite the regulations placed upon imported animals, hog cholera continued to recur periodically and blackleg finally found its way into the Territory. The virus of hog cholera probably was introduced in imported pork products. The organism causing blackleg could have been introduced in a number of ways since it is capable of living for many years in soil or similar mediums, but it most likely gained entrance in shipments of unsterilized bone meal that were brought in as feed supplements to correct the mineral deficiencies.

An outstanding example of control of a dangerous disease by regulatory measures was the quarantine placed on imported dogs and cats to prevent the introduction of rabies. This regulation was first recommended in 1911 when it was learned that rabies had spread from the East Coast to the West Coast of America within a few years. However, since this quarantine required contruction of special kennel facilities, it was not until April, 1912, that the first dogs and cats were quarantined. The regulation is still in effect and Hawaii can proudly boast that, to date, rabies has never occurred here, an accomplishment no other state or territory can claim.

As the full scope of the livestock disease problems unfolded, it became apparent that the Division of Animal Industry would have to be expanded if the various disease problems were to be solved. J. Charlton FitzGerald, M.R.C.V.S., was employed in 1906 as assistant territorial veterinarian to serve under Dr. Norgaard in Honolulu and H. B. Elliott, M.R.C.V.S., was appointed honorary deputy territorial veterinarian at Hilo the same year. In 1907,

Fig. 3—Some of the dog kennels at the animal quarantine station.

Fig. 4—View of three 20-unit cat houses, animal quarantine station.

Fig. 5—The "bell ringer"—it's time for all visitors to leave the animal quarantine station.

funds were obtained from the legislature for the construction of a bacteriology and pathology laboratory and, early in 1908, Dr. L. N. Case was brought from Cornell University to fill the position of veterinary bacteriologist and pathologist.

In 1907, a detailed plan was presented to the Board to provide veterinary service to all parts of the Territory by creating districts to which deputy veterinarians would be appointed. It was recommended that the livestock interests within the various districts assess themselves in the aggregate an amount of $100 a month to be used as a guaranteed monthly salary to each district veterinarian who would then be appointed an honorary deputy territorial veterinarian. Dr. Elliott of Hilo was the first district veterinarian to receive the monthly stipend from the livestock interests of his district, beginning in 1908. In 1909, the Maui interests were organized and Dr. FitzGerald resigned as assistant territorial veterinarian to accept that position. Also, the Kauai planters and ranchers announced their readiness to employ a veterinarian and Dr. A. R. Glaisyer was employed. This placed one veterinary official on each of the major islands.

As the disease control programs developed and the livestock industry became aware of the value of the service, other districts were organized and veterinarians employed. The island of Hawaii eventually was comprised of three districts. Kauai and Maui each had two veterinarians and even Molokai had its own district veterinarian for many years.

Upon the death of Dr. Norgaard in November, 1920, Dr. L. N. Case was appointed territorial veterinarian, serving until 1924. He was succeeded by Dr. P. H. Browning (1924 to 1927) who was, in turn, replaced by Dr. L. E. Case (1927 to 1935). I have been in charge since 1936.

In 1925, the veterinary laboratory was reorganized by Dr. B. A. Gallagher, who had been veterinary bacteriologist with the

U.S. Bureau of Animal Industry for a number of years. Dr. Gallagher died while still in office, in 1940, and was succeeded by Dr. J. M. Hendershot (1941 to 1946). Dr. H. E. Adler headed the laboratory during 1948 to 1949, and was followed by Dr. R. F. Cross (1950 to 1958). Dr. F. T. Lynd took over as veterinary pathologist and chief of the laboratory program on June 1, 1959.

As the importance of the horse and mule gradually declined, the emphasis in livestock disease control shifted to cattle, hogs, and poultry and some adjustments in veterinary districts have occurred.

The activities of the Division of Animal Industry were greatly expanded when a compulsory meat inspection law was adopted in 1953. The program was put into effect in developmental stages. By Jan. 1, 1956, the organization was completed, all slaughterhouses were licensed, and all carcasses sold as meat, except those inspected by the federal service, are stamped "Hawaii Inspected and Passed." An equally valuable by-product of this inspection concerns the health of our livestock herds. Through the reports on all animals slaughtered, statistical information on herd health is developed for use by the deputy territorial veterinarians. Blood samples are also collected from all cattle slaughtered and tested for anaplasmosis and brucellosis. Thus the meat inspection service complements the animal disease control service.

The objective of the Division has, in the main, been successful. Glanders and epizootic lymphangitis have been eradicated. The incidence of tuberculosis has been reduced from 23.89% on initial testing of dairy herds in Honolulu to a rate of 0.13% of all cattle tested in the Territory in June, 1958. A center of infection is known to exist in wild cattle in the Kona district which must eventually be eradicated before Hawaii can be declared free of bovine tuberculosis. The other serious plagues such as anthrax, blackleg, hog cholera, and several serious poultry diseases have been brought under satisfactory control.

The first cooperative federal-state control and eradication program for anaplasmosis was entered into on Oct. 5, 1955. The complement-fixation test, as modified by the Animal Disease and Parasite Research Division, is used to detect the carrier animal. Prior to 1959, 101,032 tests were conducted and 207 reactors ordered to slaughter. The infection is now believed to be eradicated. A cooperative brucellosis control and eradication program was begun in 1957 and is progressing rapidly. Perhaps the greater accomplishments are those concerned with the prevention of disease introduction, the outstanding example of which is the rabies quarantine system.

Hawaii's Rabies Quarantine

The Territory of Hawaii has never had a case of rabies. This is due to the simple expedient of subjecting every incoming dog and cat to 120 days of stringently enforced quarantine.

The only other areas on earth where rabies has never been known and which have rigid entry quarantines are Australia and New Zealand. With the exception of dogs and cats from those two countries, all must undergo the quarantine.

In 1910, Dr. John R. Mohler reported the rapid spread of the disease in the United States during the preceding decade. With the help of information from his survey, Dr. Norgaard was able to have enacted our first quarantine law against rabies and to secure funds for the construction of a rabies quarantine section in the existing large animal quarantine station. A period of 120 days was the minimum quarantine period. Minor changes in function and operation have occurred, but our freedom from this scourge proves the effectiveness of this method of control.

When a ship or an aircraft arrives, one of the first persons to come aboard is an inspector of the Division of Animal Industry. He receives from the purser's office a manifest signed by the master of the vessel which lists all animals carried or lost enroute, with the names of owners or consignees. The inspector then proceeds to the ship's kennels where he examines all dogs and cats that are landing and makes arrangements for their transportation to the Animal Quarantine Station. Animals not landing are placed under bond until the vessel sails.

On arrival at the Animal Quarantine Station, all animals are rigidly examined, then are placed in individual kennels for observation. If any disease is noticed, the owner is immediately notified. He can then employ any licensed veterinarian to treat the animal, or he can request treatment by the station veterinarian.

Our examinations reveal many con-

ditions unsuspected by the owner. It is at times embarrassing when an owner confronts us with a "health certificate" on his pet issued ten days previously by his veterinarian at home, and we have to inform him that his dog is a walking parasitic encyclopedia or is otherwise not "apparently free from contagious and communicable diseases." It would be a lot easier on the average veterinarian's conscience if he would take the same attitude in making an examination for a health certificate as he expects his medical doctor to take when he presents himself for a checkup. Anyway, we do not require a health certificate; in 120 days or longer we have an excellent opportunity to find out just how healthy he is.

All feeding, grooming, and care of the animals is furnished by the Territory. The daily charge is 75 cents for dogs and 50 cents for cats, and tipping is prohibited.

The dogs are placed in individual kennels, well separated to prevent possible contact (fig. 3). Each house is constructed of iron-pipe frames, covered with corrugated iron roofs and siding on a cement floor. The beds are made of angle iron with a removable sheet of masonite. The run is enclosed by a cement curb 3 ft. deep to protect against rats and to prevent digging out. Iron posts are imbedded in the cement curb and fenced with heavy woven wire. The runway is partly bedded with cement and partly with a coarse volcanic black sand. This sand is changed after each dog is released to prevent contamination with parasitic larvae. No wood is used in the construction of the kennels or runs.

Cats are housed in 20-unit cat houses (fig. 4). Each cat has an inside room and an outside sun porch so the owner can visit his pet (fig. 5).

The spaces between the runs are hedged with flowering hibiscus, the houses are shaded by weeping Banyan trees (*Benjamina ficus*), and the lawns that separate the kennel rows are studded with many tropical trees.

Food is prepared fresh daily in the kitchen. Prescription diets and a variety of canned foods are kept in stock and any reasonable diet that the owner requests or that seems indicated is furnished without extra charge.

During the 1957-1958 fiscal year, we received 904 dogs and 126 cats for quarantine. The initial examinations revealed: nonparasitic skin diseases, 33; parasitic skin diseases, 13; intestinal parasites (round, tape, hook, and whipworms), 217; otorrhea (acute and chronic), 95; parasitic otorrhea, 78; heartworm, 47; exotic ticks, 7; distemper and allied infections, 6; and many miscellaneous ailments such as hernias, tumors, ocular diseases, varying forms of paralysis, etc.

All pups or kittens born during quarantine are required to remain until the mothers are released. No breeding is permitted in quarantine.

One of our main problems has been to keep public sentiment in favor of the quarantine measure and thereby prevent political machination from interfering with the strict enforcement of the law or from toying with thoughts of drastically reducing the quarantine period. The inane prattle of a few visiting dog judges and other experts to the effect that (*a*) there is no such disease as rabies, or (*b*) that the incubation period is only three weeks and that the law is only benefiting local dog breeders and the Territorial coffers has, at times, created uncertainty in the public mind.

The increasing publicity given to the national rabies problem, the more enlightened public opinion toward our local problem, plus the continuous expansion and improvement of facilities of the quarantine station have all contributed to the mutual satisfaction in which the present quarantine services are both rendered and received.

The Division of Animal Industry completed its first 50 years of service in 1955. In recognition of the golden anniversary, the Division report concluded with this statement: "An illustrious history of guarding the livestock health of the Territory has been developed through the 50-year period. The present staff is dedicated to carrying on that tradition."

BLUE CROSS ANIMAL HOSPITAL

The Blue Cross Animal Hospital came into being in Honolulu in 1931 as a partnership between E. H. Willers (WSC '29) and R. H. Morrison (WSC '29).

The 80-cage capacity is being expanded to 100 units this year. Fiberglass cages have been adopted as the standard for all new and replacement units. The hospital also provides facilities for research in surgical diseases of the chest under a Ford

Foundation grant. A large animal practice is conducted on an out-call basis. In addition, office hours are maintained daily except Sundays and holidays in clinics in two suburban communities on Oahu.

Human Leptospirosis in the U.S.

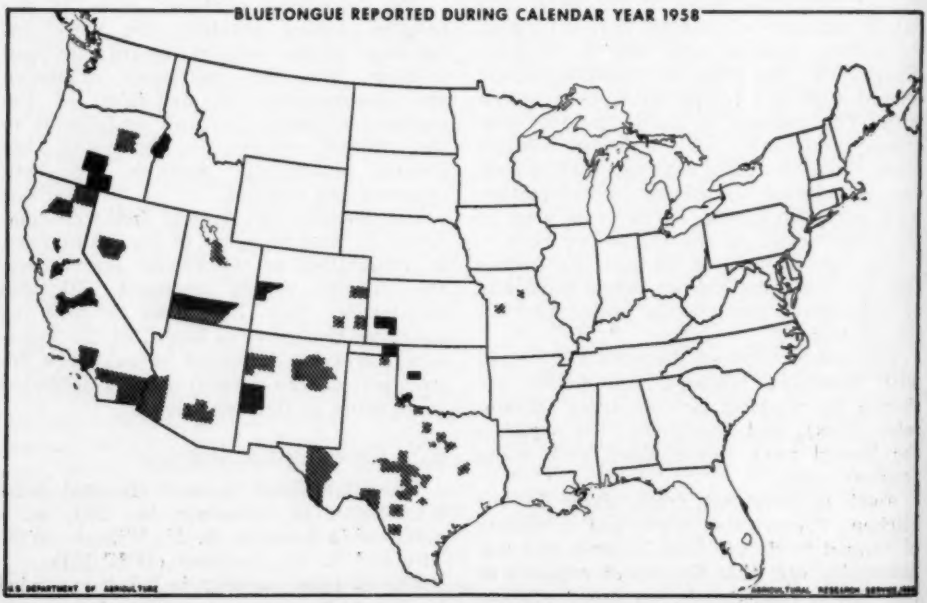
Many cases of leptospirosis have occurred in persons as a result of swimming in ponds or slow-moving creeks, and sporadic cases have resulted from occupational exposures. Veterinarians, workers in abattoirs, sewers, dairies, poultry and fishouses, and animal husbandrymen are most often affected. State health departments reported 445 human cases in 40 states in four years (1953 through 1957).—*Pub. Health Rep. (Feb., 1959)*: *141.*

Trichinosis in Wildlife

During the hunting and trapping seasons of 1955 through 1957, *Trichinella spiralis* was found in seven species of wildlife in Iowa. Of 1,761 animals examined, the following percentages were found infected: mink (4.5%), fox (8.5%), opossum (0.9%), raccoon (0.6%), striped skunk (2.5%), spotted skunk (2.2%), and coyote (4.8%).—*E. D. Hubbard et al. in J. Parasitol. (Feb., 1959): 87.*

Fluoridation and Caries

A dental survey of 9,301 continuously resident children 6 to 15 years old, in three cities in Georgia, showed an inverse relationship between the disease and the concentration of fluorides. At Macon, where the fluoride concentration of the water was 0.11 p.p.m. (1.00 p.p.m. is recommended), there were only 39 per cent as many caries-free children as at Moultrie where the fluoride concentration was 0.75 p.p.m. Savannah was intermediate in both respects. —*Pub. Health Rep. (Feb., 1959)*: *127.*



The shaded areas of the map indicate counties in which bluetongue was reported; the dark areas, the counties in which clinical diagnosis was confirmed by laboratory findings. The states in which clinical diagnosis was confirmed by laboratory findings from 1952 to 1958 are: Arizona, California, Colorado, Idaho, Kansas, Missouri, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, Texas, and Utah.

Exotic Diseases

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NOT EVERYONE realizes that agriculture as a whole is this country's biggest industry. Of about 62 million employed Americans, approximately 25 million work somewhere in agriculture, either on farms and ranches, in production and services for farmers, or processing and distributing farm products. Agriculture has been described as 50 times bigger than the steel industry. Despite the fact that there are 35 per cent fewer farmers and ranchmen today than in 1940, the production of food and fiber has increased 44 per cent. The Dean of Agriculture of Purdue University recently pointed out that with modern methods, 700 lb. of feed may produce a 200-lb. pig at 5 months of age, in contrast with previous standards requiring considerably more feed and one to three months longer feeding.

We have an honorable heritage in the veterinary profession in this country, and an enviable record in disease control and eradication. Regulatory veterinary medicine in this country first proved its capabilities when contagious bovine pleuropneumonia was eradicated during the latter part of the last century. Shortly thereafter, fundamental facts were uncovered that eventually effected virtual elimination of piroplasmosis.

Similarly, glanders and dourine have become virtually extinct in this country. There have been repeated successes in stamping out foot-and-mouth disease (FMD). Twice, fowl plague has been eradicated. Tuberculosis of bovine origin in man is almost a thing of the past. The infection in cattle has been reduced to a fraction of 1 per cent, although the eventual goal of eradication has not been reached, and substantial research problems remain. Bovine brucellosis is being attacked vigorously, with eradication the goal, but in swine, control to date has been largely on a herd basis. Several of the important cattle-producing states in the West are included among those now classified as modified certified brucellosis-free.

While these issues persist, the profession's responsibilities have been multiplied by a number of new, or at least only relatively recently recognized, challenges. Leptospirosis has been found to be widespread in several species, and many basic questions regarding it remain unanswered. Atrophic rhinitis, virus pneumonia, and viral enteritis of pigs appear to be exacting increasing tolls. Mucosal disease and infectious bovine rhinotracheitis require additional research.

Vibriosis and other infections continue to cause serious losses through abortion. Chronic respiratory disease and ornithosis have appeared as added handicaps to the poultry industry.

These are but some of the issues for which all the desired answers have not been found or for which practicable control measures have not been developed. They should suffice to show that there is no dearth of unanswered questions on the home front.

International Problems in Disease Eradication

Internationally, the situation is no less challenging. Foot-and-mouth disease continues to be the No. 1 disease problem in most of the world. Although rinderpest has been controlled to a considerable extent, the two are still major handicaps, especially in relation to their serious impact on the more than one third of the world's 800 million cattle that are used primarily in plowing, tilling, hauling, and other forms of animal power.

Also involved are various forms of trypanosomiasis and protozoan infections, such as piroplasmosis and Africa East Coast fever. Rift Valley fever, so called because of its discovery and identification in that geologically expansive part of Africa, causes serious losses through abortions in both sheep and cattle. In addition, it is highly communicable to man.

Teschen disease, identified by the locality in Czechoslovakia where it was first

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Adapted from an address given before the 1959 meeting of the Intermountain V.M.A. at Salt Lake City, Utah.

discovered, has spread considerably in Western Europe. This encephalomyelitis of swine somewhat resembles, but is distinct from, poliomyelitis in man. Contagious bovine pleuropneumonia persists in many part of Africa and Asia, and has appeared comparatively recently in southwestern Europe. The history in this country and experiences in other countries, including Australia and Africa, amply demonstrate the seriousness of this infection. Other diseases, caused by similar organisms, include agalactia of sheep and goats, and goat-pleuropneumonia. These diseases, as well as sheep pox, cause high mortality in some other parts of the world.

Nairobi sheep disease, a tick-borne virus disease of sheep and goats and characterized by gastroenteritis, was first discovered in East Africa. It is, in fact, the first virus disease proved to be transmitted by ticks. Mortality from the infection varies from 30 to 70 per cent.

African swine fever, which resembles hog cholera but appears to be distinct, is a highly fatal disease that until recently had been confined to Africa. Within past months, however, it appears that the infection may have been introduced into Portugal, presumably through importation from Angola. The Portuguese authorities are reported to have attacked the outbreak vigorously and applied stamping-out procedures. It is to be hoped that their efforts will be wholly successful. Research on diagnosis and prophylaxis has proved unusually complicated, but some promise of a means of specific laboratory diagnosis has accrued lately.

Other diseases to which we must be alert in the United States include enzootic ovine abortion, which before institution of control measures caused heavy losses in Scotland. The disease is caused by a psittacosis-lymphogranuloma-like organism which apparently has been identified in Montana and possibly elsewhere in America. Another foreign disease is heartwater, a tick-borne, generally fatal rickettsial infection of cattle, sheep, and goats, characterized by nervous symptoms and hydropericardium.

The virus of mosquito-borne Venezuelan equine encephalomyelitis, which has been identified in northern South America and Central America, is distinct from the Eastern and Western types of the disease in the United States. Like the North American types, however, it appears to have a so-called "silent reservoir" in birds and is highly pathogenic for man.

The tick-borne viral encephalitis of sheep, known as louping-ill, has long been known in Scotland and northern England. It has aso been identified in Russia and Czechoslovakia. There is an apparent relationship between this virus and that of so-called "Russian spring-summer encephalitis," which affects several other species, including man.

Rinderpest, which causes mortality approximating 90 per cent, could wreak havoc here. Foot-and-mouth disease usually does not cause high mortality except in young, nursing animals, but it seriously impairs productivity, causing abortions, drop in milk flow, loss of weight, mastitis, and such sequelae as infertility, chronic lameness, and general unthriftiness. The disease is extremely communicable and may cause losses in productivity of 25 per cent or more.

The seriousness of the complex FMD problem has been emphasized in recent years by discovery at the Research Institute at Pirbright, Surrey, England, of four new immunological types of the virus. Three of these, identified as SAT 1, SAT 2, and SAT 3, have been found in widely separated parts of Africa. The latest and most recently discovered type, Asia I, was originally identified in Thailand, Hong Kong, Pakistan, and India. It occurred also in Israel last year. In addition to the seven known different types, there are numerous subtypes, or variants, which differ significantly in immunogenicity. In areas where vaccination is relied upon for control, the multiple problems involved may readily be appreciated.

Among other important recent observations is that some strains of FMD virus, like some strains of vesicular stomatitis virus, frequently fail to develop the expected degree of vesiculation that is considered typical. In such cases, there is a dry, crumbly necrosis of the mucosa, followed by erosions.

DISCUSSION AND CONCLUSION

All evidence clearly points to the advisability of continuation or appropriate modification of all practicable safeguards against entry of these and the other diseases mentioned. Moreover, experience in this country, as well as elsewhere,

clearly confirms the soundness of our national policy of restrictions against importations and stamping-out, or eradication, whenever such a course may be soundly taken.

The modern trend in the United States is toward gradual reduction in numbers of livestock producers, dairies, and feeders, the increasing magnitude of individual operations, and proportionately greater risks involved among the relatively larger groups of assembled animals. The hazards are so complicated that the practitioner, producer, inspector, buyer, shipper, and regulatory official each has increasingly greater individual responsibilities. At any given moment, the challenge and the opportunity to intercede may appear. At an earlier or later time, or during another stage in the cycle, the job of putting out the fire may be tremendous, if not impossible.

Increasingly stronger restrictions have been placed on various importations and movements. More and better veterinarians are being trained. In the profession as a whole, there is a generally sound conviction of professional responsibility and public service. The philosophy and practice of preventive medicine, in a broad sense, on herd, area, and national bases, has largely replaced the old objective of treatment of individual animals.

The experiment stations, the Animal Disease and Parasite Research Division of the U.S.D.A., other branches of government, and independent agencies are developing improved facilities for statistically sound research, upon which all true progress must be founded. There are increasing facilities for graduate training of better teachers, researchers, and other leaders.

In addition to improved and expanded research facilities in the individual states, the Agricultural Research Service of the U.S.D.A. has established the Plum Island Laboratory for study of exotic diseases, especially FMD, and a new National Animal Disease Laboratory is being constructed at Ames, Iowa. The present facilities of the Animal Disease and Parasite Research Division at Beltsville are destined for expansion, to make possible increased parasitological investigations. Cooperative research is continuing in Europe and East Africa.

Broad concepts are materializing; more and more it becomes apparent that we are not only teachers, small animal or general practitioners, public health veterinarians, regulatory officials, researchers, or administrators; we are all part of the whole disease-prevention and control team. We have a unified national policy of eradication of disease whenever this is technically, legally, or economically feasible. As Albert Mitchell, one of our better-qualified livestock counselors, has said, "the will to undertake eradication may be based on a state of mind as well as technical considerations."

Let us remember that Newcastle disease, bluetongue, and scrapie became wide spread in the United States before they were recognized eventually as these previously supposed exotic diseases. These experiences should prompt us to be informed and alert, and duly cognizant of the fact that textbook descriptions and clinical diagnoses are fallible, while laboratory studies are fundamental. Also to be remembered is the axiom that different strains of the same virus may manifest themselves in diverse fashion, depending not only on the strain of virus itself, but also on climatic, ecological, and animal factors.

In all cases, close coordination between state and federal officials, field representatives, and the laboratory are essential. The primary contact should always be the federal or state official in charge of field activities.

Rats and Mice as Carriers of Newcastle Disease Virus

Newcastle disease virus (NDV) was found in the feces of 21 white rats within five days after they had been fed either infective chicken embryos or the intestines of hens dead of the disease. The rats were negative to tests for the virus prior to the experiment. The virus was also found in the walls of the digestive tracts of 3 of 19 rats examined. This indicates that these rats were subclinically infected.

The virus was also isolated from the feces of 17 white mice similarly inoculated, but no virus was found in the walls of their digestive tracts. This was believed to indicate that the mice were only mechanical carriers of NDV. These rodents may be factors in the transmission of the disease. —*Z. Baczynski in Med. Wtryn. (March, 1959): 153.*

Removal of Bone from the Esophagus of a Pup—A Case Report

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Vernal, Utah

A male Dachshund, 3 months old, with signs of extreme depression and anorexia, had been ill more than eight hours. Although purchased ten days previously in an area where canine infectious hepatitis was enzootic, it had not been vaccinated against this disease. The diet included tablescraps, milk, and commercial dog food.

Clinical Signs and Procedure

Examination revealed the body temperature to be 101.5 F., pulse 160, and respirations 80. Gas could be palpated in the anterior ventral abdominal area which was sensitive, although no vomiting or diarrhea occurred. Most of the time, the dog sat on his haunches with nose resting on the ground. Otherwise, it was in good physical condition.

An enema of warm water was given, then gastrointestinal lavage was attempted, but the dog was unable to vomit and showed extreme respiratory distress. When the stomach was emptied by means of a stomach tube, breathing became approximately normal again.

One and a half hours following an oral dose of barium meal, a radiograph (fig. 1) revealed a foreign body in the thoracic portion of the esophagus (it is interesting that the stomach tube bypassed this foreign body).

Morphine was given in an unsuccessful attempt to induce vomition and thus dislodge the foreign body.

The dog was then given ether anesthesia with a mask. A 12-inch forcep was used to engage the foreign matter and remove it by way of the mouth. It proved to be a pork chop bone.

Discussion and Conclusion

The severe depression and sensitivity in the abdominal area was due to the bone having lodged immediately dorsal to the heart; projections of the bone probably produced pain with each heartbeat.

Diagnostically, this dog's susceptibility to infectious hepatitis and the onset of sudden illness were worthy of consideration until the bone could be shown by radiography.

The patient was apparently normal and could eat six hours after removal of the bone.

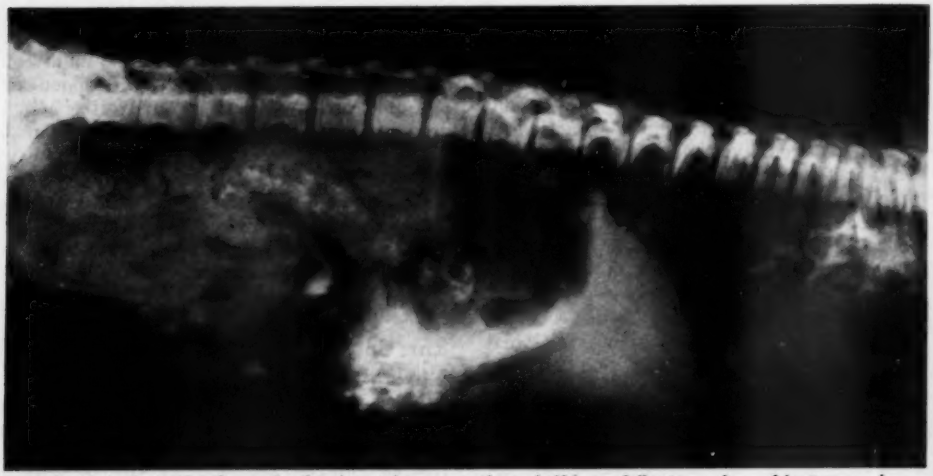

Figure 1—Lateral radiograph of a dog, taken one and one half hours following a dose of barium meal. Remains of a pork chop can be seen immediately dorsal to the heart.

Dr. Eggers is a general practitioner in Vernal, Utah.

A Review of Recent Findings in Infectious Diseases of Sheep. II. Bacterial Diseases

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DURING THE PAST several years, a number of new diseases of sheep have appeared in various parts of the world, while some of the long recognized infections have spread in rather alarming proportions to countries wherein they did not exist previously. The viral diseases of concern to veterinarians in this country were discussed in the June 15, 1959 JOURNAL.

RAM EPIDIDYMITIS

An epididymitis of rams was described in Australia as early as 1942.[9] It was not until ten years later, however, that the causative organism was recovered from rams[5,26] as well as aborted fetuses and their dams[26] in New Zealand.

In 1956, the disease was reported from California, where it was thought, in retrospect, to have existed for at least eight years previously.[20]

DESCRIPTION OF THE ORGANISM

The causative organism is a microaerophilic, gram-negative coccobacillus. Since it fails to produce any change on the usual differential mediums, a useful distinguishing characteristic is the fact that it is somewhat acid-fast when stained by a modified acid-fast procedure.[27] It is found extracellularly and within the neutrophils. It is nonmotile, nonencapsulated, and catalase-positive.

The classification of the agent is a matter of considerable dispute. New Zealand workers proposed, on the basis of morphology and pathogenicity, the name *Brucella ovis*,[5] but this has been contested on serological and biochemical grounds and is unlikely to find general acceptance in this country, especially among workers active in brucellosis research.[22] Of the other genera that have been suggested, the Bordetella group is apt to meet with the fewest objections.[13]

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Presented before the Section on General Practice, Ninety-Fifth Annual Meeting, American Veterinary Medical Association, Philadelphia, Pa., Aug. 18-21, 1958.

NATURE OF THE DISEASE

Epididymitis is a strictly localized disease of the ovine genital tract. In this country and Australia, disease due to this organism has thus far been recognized in males only, but in New Zealand, late abortions associated with placental and fetal infections have been described.

The earliest gross lesions take the form of adhesions between the epididymis and the testis, usually in the distal portion of the organ. More advanced changes involve the substance of the epididymis, where circumscribed indurations, most common in the tail and palpable through the scrotum, are found. These are sperm granulomata occasioned by the stasis that results from the inflammatory swelling of the ductular epithelium. As the disease progresses, these granulomata grow and multiply and undergo caseation necrosis. Eventually, they involve more and more of the epididymis and spread to the testicle proper. The palpable division between testicle and epididymis becomes obliterated, and while the epididymis acquires tremendous proportions, the testicle atrophies.

The disease commonly affects one testicle but bilateral lesions, usually at different stages of development, are frequently seen. Infection with the organism that causes ram epididymitis is not necessarily accompanied by gross lesions. In fact, serological evidence, verified by cultural and semen examinations during the past year, suggests that 25 to 30 per cent of the infected rams may show no palpable lesions when examined at any given time.

According to our observations, most of the individuals carrying latent infections develop lesions eventually, although some rams, observed over a period exceeding six months, failed to develop any gross testicular abnormality. They were shown to harbor the organism all through the observation period, however. In the case of some rams showing advanced lesions of one or both testicles, it may be impossible to recover the causative agent either from semen or

by direct culture of the diseased organs. Only serological evidence points to the original source of the disease.

Infected rams, regardless of the palpability of their lesions, produce semen that will show varying degrees of abnormality. Decreased sperm counts, diminished and abnormal motility, and admixtures of pus and epithelial cells, are the common findings.[11]

The effect of ram epididymitis on fertility under field conditions is under study.

DIAGNOSIS

Three methods of diagnosis are available: (1) palpation of the testicles, (2) culture of the semen, and (3) demonstration of antibodies in the serum.

Palpation of the testicles is obviously the most economical and least troublesome approach, although considerable experience and knowledge of the normal testicle is required to detect early lesions. In view of what has been said regarding the prevalence of latent cases, this method is obviously useful only in establishing the presence of infection on a flock basis. It is a matter of record that any clean-up program based entirely on physical examination is foredoomed to failure.[2,6]

Recovery of the agent from semen is the one indisputable criterion of infection. Unfortunately, semen collection requires expensive equipment and involves ideally careful preparation of the animals to assure the collection of reasonably uncontaminated samples. It must be emphasized, however, that even with an uncontaminated sample only a positive finding can be considered definitive.

The serological approach appears to be the most convenient for diagnosis. A complement-fixation procedure, using the soluble portion of sonically disrupted bacteria as antigen, has in our hands given every indication of being a highly specific test and superior in sensitivity to methods employing whole-cell antigens.[2] The procedure is at present undergoing testing as a means of ridding flocks of the infection.

TRANSMISSION, CONTROL, AND TREATMENT

Infection spreads readily from ram to ram, and venereal transmission, with the ewe acting as a go-between, has been suggested. There is no evidence, however, that ewes can harbor the infection from one season to the next or that the organism survives the winter on pasture.[10]

From the foregoing, several approaches to the problem of control become evident. Since the incidence of epididymitis rises sharply with advancing age, a rapid turnover of the ram flock is a sound management practice, especially where diagnostic services are not available. Obviously, only clinically and serologically negative rams should be added to the flock.

Success has been claimed for a bacterin as a prophylactic,[4] but further data will be needed to confirm this. Early investigations showed the organism to be susceptible to penicillin and streptomycin,[5] and bacteriological cures of experimental infections have been effected by extended treatment with combined chlortetracycline and streptomycin.[15] It is rather doubtful how much benefit can be expected from antibiotic therapy instituted after chronic lesions have developed.

PRESENT STATUS AND OUTLOOK

Ram epididymitis has been recognized in Australia,[26] New Zealand,[5] Czechoslovakia,[8] and the United States.[20] As far as the distribution in this country is concerned, only California has thus far officially gone on record as an infected area. Unofficial reports of the presence of the disease in one or two other western states have reached us recently. Incidence in flocks ranges from 5 to 60 per cent.[6,20,26]

At some of the larger ram sales, such as the spring auctions at Sacramento and Dixon, Calif., palpably diseased animals are sifted out, but the silent shedder, identifiable only by culture or blood test, goes undetected. There can be little doubt that under these conditions there is nothing to interfere with the unlimited dissemination of ram epididymitis.

HEMOPHILUS AGNI SEPTICEMIA

In the summer of 1957, a peculiar infection struck the college flock at the University of California. It was a rapidly fatal disease, apparently not directly contagious from animal to animal and involving only lambs. It lasted from May to August, by which time 20 of 120 lambs had died.[14]

DESCRIPTION OF THE ORGANISM

The causative agent is a small, nonmotile, pleomorphic gram-negative rod which re-

quires hemoglobin or its derivatives for growth. Isolation is greatly aided by raising the carbon dioxide tension to 15 to 20 per cent. Organisms from diseased tissues or primary cultures stain very poorly by Gram's method. The best results were obtained with dilute (1:10) carbol fuchsin. Pleomorphism in primary cultures is extreme. Distinct rods and even filaments alternate with coccoid elements. The latter are commonly found in clusters suggesting colonies.

NATURE OF THE DISEASE

Clinically, the disease resembles many other acute conditions of lambs in that its course is rapid and unattended by any signs that would aid materially in arriving at a specific diagnosis. Death of 1 or 2 lambs was the first indication of its presence. Later, when the herdsman was alerted and watchful for new cases, depression and stiffness were noted in affected animals about 12 hours prior to death. These lambs had a fever of 107 F. or more at the time. Spontaneous recoveries have never been observed.

The predominant gross lesions consisted of hemorrhages throughout the body, accompanied by edema and congestion. Individuals surviving for more than a day also were affected with a fibrinopurulent arthritis and eventually meningitis. Microscopically, the most striking finding was multiple bacterial thrombosis, which was particularly marked in the liver and voluntary muscles and led to hemorrhage, inflammation, and necrosis.

The disease was reproduced in all its clinical and pathological particulars by parenteral injections of pure cultures of the isolated bacterium.

DIAGNOSIS

The organism is readily cultured by following the method described in an original report.[14] Of the serological tests tried, a complement-fixation test appeared to be highly sensitive and specific. The antigen used was infected chicken embryo allantoic fluid inactivated at 56 C. for 30 minutes. Serological studies using the complement-fixation test showed that antibodies were on the point of disappearing about three months after the last clinical case had been observed.

Cross reactions with other common sheep pathogens, including those of epididymitis, bluetongue, *Pasteurella hemolytica* infection, enzootic pneumonia, and listeriosis, do not occur. It is, therefore, apparent that any reactors to the complement-fixation test have recently gone through an infection with *Hemophilus agni*. The test is thus suitable for detecting and identifying Hemophilus septicemia when and if it appears again.

TRANSMISSION, CONTROL, AND TREATMENT

The method of transmission is unknown. The slow spread of the natural disease, the failure of contact control animals to become infected when confined with experimentally infected lambs, and the need for parenteral inoculation in order to produce the experimental disease all argue against animal-to-animal dissemination. The fastidiousness of the causative bacterium almost rules out a soil reservoir. The question of vertebrate or invertebrate reservoir hosts and that of arthropod transmission awaits investigation.

While treated recovered animals proved refractory to later challenge, injection of formalinized cultures, although giving rise to complement-fixing antibodies, failed to induce sufficient protection against intravenous challenge. Streptomycin, especially when given early, proved an efficient therapeutic.

PRESENT STATUS AND OUTLOOK

During the year since the first identification of *H. agni*, two isolations of apparently the same organism have been made: one from a lamb with arthritis in a small farm flock, and the other from the spleen of a single lamb that died of pneumonia. These instances indicate an opportunistic pattern of pathogenicity so that the flock outbreak may have been the result of a unique constellation of circumstances, which is unlikely to recur frequently.

SEPTICEMIC PASTEURELLOSIS

During the last six years, a septicemic infection due to *Past. hemolytica* has been reported from three widely separated areas of Europe. Clinically and pathologically, it was the classical picture of "hemorrhagic septicemia" which has been represented in the recent American literature as a semi-extinct oddity. In older papers, one finds the condition described but without special

references to the specific role assigned to *Past. hemolytica* in the more recent reports.

Our interest in this disease was awakened during our investigation of *H. agni* infection. In our search through past and current records, we came upon a condition characterized also by rapid mortality and many of the pathological features typical of the Hemophilus septicemia. In almost all cases, an organism identifiable as *Past. hemolytica* was recovered from a variety of organs. During the summer of 1957, six outbreaks occurred within a 15-mile radius around Davis, Calif.

DESCRIPTION OF THE ORGANISM

During the last 40 years, *Past hemolytica* has been described repeatedly and adequately[12,24,28,29] as the cause of respiratory disease in cattle and sheep so that another summary of the characteristics of this organism appears superfluous. A recent study[23] is particularly to the point since it shows the great variability of physiological reactions found in this species.

The field condition has been reproduced by parenteral administration of large doses of pure culture.[1,31]

NATURE OF THE DISEASE

As intimated before, septicemic pasteurellosis shares many characteristics with *H. agni* infection. Again, death of 1 or 2 lambs is the first indication of the presence of the disease in the flock. If any are sick, depression, recumbency, and apathy are apt to be the only signs. Additional deaths occur soon, until a flock mortality of 1 to 2, but sometimes up to 5, per cent is reached. Usually, flock treatment is instituted following the first few fatalities, and new cases commonly cease to appear after three or four days. Whether this is due to the treatment or to the disease having run its course is open to speculation. There is enough evidence to contemplate the second alternative rather seriously.

Late complications in field and experimental cases include arthritis, pericarditis, meningitis, and possibly pneumonia. Upon investigating the history of an outbreak, recent shipment or shearing or some other taxing experience are commonly encountered. Thus, though in the individual lamb the clinical pictures of Hemophilus and Pasteurella septicemia are next to identical, a distinction may be drawn between them on the basis of the number of animals affected at one time, duration of the outbreak, and the total number of animals involved.

The pathological picture of *Past. hemolytica* septicemia is dominated by hemorrhages and bacterial thrombosis, but the distribution and histopathological features of the lesions differ in the two diseases. Lung lesions have never been found in any of the animals dying of Hemophilus septicemia, while they are invariably encountered in those with septicemic pasteurellosis. It should be emphasized that in the latter they are rarely, if ever, pneumonic in the traditional sense but consist of hemorrhage, edema, and congestion with virtual absence of cellular inflammatory reaction even in experimental cases of up to 12 days' standing. Ulcerative lesions on the pharynx and larynx are common in pasteurellosis.

A further distinctive lesion is the extremely severe involvement of whole complexes of lymph nodes in the Pasteurella infection. The lymph nodes appear to be favorite places for proliferation of Pasteurella organisms. Literally thousands of organisms can be demonstrated on a single impression of the cut surface of an involved node. Suitable stains will reveal capsules.

The degree of necrosis is much milder in the Pasteurella as compared with the Hemophilus infection. Similarly, the inflammatory reaction to the bacterial colonies is much more pronounced in the latter disease.

DIAGNOSIS

The causative organism is easily isolated from all affected organs. Identification is on the basis of cultural reactions on the standard differential mediums.[1,12,24,28,29,31]

TRANSMISSION, CONTROL, AND TREATMENT

Organisms morphologically and culturally indistinguishable from those isolated from animals with field cases have been recovered from the nasal passages of normal sheep almost routinely,[1,3] and it is assumed by some that under conditions of decreased resistance, invasion and proliferation of the organisms may occur. The fact that these commensal types are often pathogenic under experimental conditions adds further weight to these hypotheses. On the

other hand, strain differences in pathogenicity, at least for experimental animals, have been alleged.[7] To what extent they are related to the sudden appearance and disappearance of the disease in a flock is at present a matter of conjecture.

Norwegian investigators have reported on a vaccination experiment using a bacterin.[21] The number of animals involved was small, and though the authors claimed significant protection, trials on a larger scale will have to be held to permit accurate evaluation.

Streptomycin and a number of the other antibiotics have an inhibitory effect on *Past. hemolytica*. The sulfonamides, sulfamethazine in particular, enjoy widespread use in the treatment of exposed flocks. Since the disease appears to die out rather quickly by itself, the benefit of such treatment remains to be established.

PRESENT STATUS AND OUTLOOK

That a clinical condition corresponding to *Past hemolytica* septicemia has been recognized in this country from time to time is evident from the older literature.[28,30] Lately there has been a tendency to belittle the extent to which the condition occurs. One well qualified reviewer wrote in 1953 that he had seen but 1 case.[17] Possibly the disease is a regional problem and is triggered by particular husbandry practices and other environmental factors.

An intriguing aspect of septicemic pasteurellosis is its relationship, if any, to the so-called "shipping fever pneumonia," from which *Past. hemolytica* is commonly isolated. Scottish and Norwegian workers describe it as a sequela to, and even a part of, the septicemic stage. In our experience, true pneumonic lesions have been a relatively rare and inconstant feature of septicemic pasteurellosis.

CLOSTRIDIUM PERFRINGENS, TYPE A, IN LAMBS

A recent report[19] described a form of enterotoxemia due apparently to *Clostridium perfringens*, type A. The identity of the organism was established by neutralization tests in mice and the toxin demonstrated *in vitro*. The disease occurred in nursing lambs during the wet spring of 1958 and had as its distinguishing characteristics a severe hemolytic anemia, icterus, and hemoglobinuria. The condition appears identical to the enterotoxemic jaundice reported from Australia in 1936.[25]

Pure culture filtrates from a strain recovered from the intestinal contents of an animal with a field case were injected intravenously into lambs and produced the identical disease as seen in the field. No attempts at prophylaxis by the use of toxoids, bacterins, or antitoxin have been made as yet.

ARTHRITIS IN LAMBS

A perennial problem in many sheep-raising areas of California is the occurrence of an epidemic form of arthritis among nursing and feeder lambs. A fever usually accompanies the disease in its early stages. Death losses are negligible, and the animals ordinarily recover within one or two weeks, but suffer a severe setback during their illness.

The cause is far from clear. In some cases, *Erysipelothrix rhusiopathiae* can be isolated from aspirated joint fluids. In many others, however, a majority in fact, no organism, bacterial or pleuropneumonia-like, can be demonstrated by any technique. Erysipelothrix has long been known to cause arthritis in lambs and has been used in reproducing the disease.[16] Any route of administration was successful.

Vaccination with erysipelas vaccine has been found to prevent this form of arthritis. In early field trials in California to be reported on later,[18] however, vaccination of young lambs has given disappointing results. While it is conceivable that the lambs were not old enough to develop a satisfactory immunity, the possibility that etiological factors other than the erysipelas organism may produce arthritis in lambs cannot be dismissed lightly.

DISCUSSION

Developments in the infectious diseases of sheep over the past several years serve as a reminder that the problem of disease in domestic livestock as a whole is not a static one but is rather an ever-changing complex as new infectious agents appear, new manifestations of disease caused by long-recognized pathogens are encountered, and diseases that were confined in the past to distant parts of the world are now part of our domestic disease picture. Realization of these facts strongly affirms the fallacy of the existence of "barren" areas of research in infectious disease work.

The manner in which the new disease agents originated and the reason for long-recognized pathogens assuming new pathogenic roles are still to be revealed by research. However, a much more urgent demand on the research scientist is the development of methods of recognition, prevention, and control of these new aspects of disease which confront the practicing veterinarian and the disease control official.

A realization of the ever-present threat of disease, from within as well as from without, and the necessity for close cooperation between the various agencies and specialties within the veterinary profession provide the only assurance that these problems can be met and dealt with successfully.

SUMMARY

Several new infectious diseases of sheep have been recognized in recent years in various parts of the world. Others, although previously known as clinical syndromes, have received further study which has served to clarify their cause or thus far merely pointed to their complexity.

The authors have endeavored to acquaint the veterinarian with the current status of these conditions, to give a summary of the investigational work that has been conducted, and to indicate contemplated trends in studies of these diseases to be undertaken in the future.

Diseases discussed in this and the previous paper[21] are: enzootic abortion of ewes, abortion due to the Wesselsbron virus, virus pneumonia, bluetongue, epididymitis, septicemic pasteurellosis, and a recently recognized septicemic infection of lambs caused by a member of the Hemophilus group. Reference is also made to a form of enterotoxemia hitherto unknown in North America, and to an epizootic form of arthritis, the causes of which are not completely elucidated.

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Organisms in Mastitis in Ewes

Bacteriological examination of milk from 130 clinically healthy ewes, in Norway, showed no bacterial growth. Examination of secretions from 72 ewes with mastitis yielded *Staphylococcus aureus* from 47, *Escherichia coli* from 9, Pasteurella spp. from 8, *Streptococcus uberis* from 2; no bacteria were isolated from 6.

Staphylococcus aureus was found in all gangrenous cases. Recovery of udder function depends on early treatment.—*A. Kvitrud and I. Lysne in Nord. Vet.-med. (March, 1959): 129.*

Intramammary Immunization of Sheep Against Staphylococcic Mastitis

After repeated large intramuscular injections of the vaccine failed to consistently produce satisfactory protection against staphylococcic mastitis in sheep, the intramammary method was tried. A mixed vaccine, including antitoxins, was injected through the teat duct to the level of the mammary tissue, using a 3-cm. milk tube. Each teat was injected three or four times at four-day intervals.

After, in early experiments, mastitis resulted from other organisms which were carried on the tube from the teat orifice, 100,000 units of penicillin per cubic centimeter were added to the vaccine. This method protected against intramammary challenge, one to three weeks after vaccination, with staphylococci which produced marked mastitis in lactating control ewes. Duration of the protection has not been determined.—*J. Pillet et al. in Ann. Inst. Pasteur (March, 1959): 365.*

Addendum.—Further research showed the protection to decrease markedly in one month and to cease after 48 days. Vaccination should be repeated at least three times; the third and fourth dose can be given intramuscularly but their effect is less than when injected into the udder. A single booster dose, when immunity has considerably decreased, induces high resistance.—*J. Pillet et al. in Ann. Inst. Pasteur (May, 1959): 591.*

A New Antibiotic for Mastitis

The use of thiostrepton (Neothion, Squibb), which is now available for the treatment of mastitis, may be one answer to the elimination of penicillin residues in cows' milk. Since it has never been used as a therapeutic agent in human disease, this antibiotic should not contribute to the development of resistant strains of organisms which are pathogenic for human beings. All traces are gone from the milk in 72 hours.—*Squibb release, March 4, 1959.*

Tetanus in the Dog—A Case Report

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ALTHOUGH THE DOG is noted for its resistance to tetanus infection, reports of tetanus in the dog do appear in the literature from time to time. A dog so affected was examined at the University of Illinois Small Animal Clinic on Aug. 15, 1957.

CASE REPORT

The owner of this 10-week-old female Border Collie had observed in the morning that it was depressed and that there was slight incoordination of the hindquarters. Several hours later, all four legs were in tonic spasms, although the dog was still alert and had control of the head and tail. At this time, it had a temperature of 104.2 F.

At the time of admission, the jaws and legs were stiff. The ears were drawn erect and the skin between them was wrinkled. The commissures of the lips were drawn slightly backward. Loud noises caused severe spasms. There was no history of injury and the site at which the infection began could not be found.

The disease was diagnosed as tetanus on

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the basis of signs which differentiated it from somewhat similar conditions. These include strychnine poisoning, which produces clonic rather than tonic spasms, and spinal meningitis, which routinely produces a high fever but no trismus.[3] Rabies may be differentiated by the slower onset of signs; distemper, by the absence of trismus.

Immediate treatment consisted of tetanus antitoxin, 4,500 units epidurally and 13,500 units subcutaneously and intramuscularly. Promazine hydrochloride (25 mg.) injected intravenously caused instantaneous relaxation.

Routine treatment thereafter consisted of administration of 25 mg. of promazine intravenously and 25 mg. intramuscularly, twice daily. The dosage was increased to 50 mg. intravenously and 50 mg. intramuscularly, twice daily, when the signs were most severe. The tranquilizer invariably produced relaxation of the spastic muscles. The effect lasted one to two hours at first and longer after recovery began.

The successful use of other anticonvulsants and muscle relaxants for the treatment of tetanus has been reported in the literature. In rabbits infected with tetanus, chlorpromazine administered in the dosage of 1 mg. per kilogram of body weight abolished spastic response to stimulation for as long as two hours.[2] It has also been reported to inhibit convulsions and to relax abdominal and lumbar muscles in cases of tetanus in man.[1]

In addition, 300,000 units of penicillin was given intramuscularly twice daily. Supportive treatment included fluids and vitamins injected subcutaneously, and a thick homogeneous soup given via a stomach tube. This therapy was continued until August 21, when the dog started to improve. After that, treatment was gradually reduced and discontinued.

The body temperature was consistently normal after the first day. Except on the third day of hospitalization, when signs were most severe, she would attempt to eat whenever food was offered. However, she could not open her mouth far enough to ingest an appreciable amount of food until the eighth day. Urination was normal, but several enemas were required. She was alert at all times and could use her tail normally, even when clinical signs were most pronounced.

On the sixth day of hospitalization, spasms became less severe. The following day, the promazine hydrochloride was not needed to produce relaxation of the legs. On the thirteenth day, the dog could stand when lifted; on the fifteenth day, she walked alone; and on the seventeenth day, she was able to rise without help. Her gait was stiff for some time but had returned to normal when she was examined eight months later.

SUMMARY

A dog examined at the University of Illinois Small Animal Clinic on Aug. 15, 1957, had tonic muscle spasms typical of tetanus. Treatment included tetanus antitoxin, penicillin, and promazine hydrochloride. Supportive treatment, considered essential, included vitamins and fluids given subcutaneously and liquid food given by stomach tube. Improvement began on the sixth day of hospitalization and was essentially complete on the seventeenth day.

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Fire Ant Venom Kills Other Insects

Venom from the fire ant's stinger was found to kill fruit flies, house flies, boll weevils, termites, and all other insects tested. All were killed quickly, even mites which are resistant to chemicals that kill most other insects. The venom also completely inhibited gram-negative and gram-positive bacteria as well as some molds and fungi. No antibiotic known kills both bacteria and molds.

The venom is formed in two sacs near the ant's stinger. An extract made from grinding frozen fire ants with water in a Waring blendor was also effective, indicating that the product could be commercially produced as an insecticide. Further investigation showed that a material from bees was effective against molds which infect the skin.—*Farm J. (May, 1959): 66V.*

Promazine in Equine Practice

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UNDER NORMAL circumstances, a horse is not disturbed by sounds, odors or the presence of other animals, including man, as long as they are a part of his natural environment and not a potential menace to his well-being. The hospital subject, however, is no longer in a familiar environment and will react to strange surroundings, loud or unusual noises, hospital odors, and strange personnel.

In horses, restraints such as the twitch, hobbles, casting, blind folds, snubbing, stocks, stalls, and slings are commonly used for control during examination and preparation for minor and major surgical procedures. Although these restraints control physical action, they cause irritation, frequently induce pain, and may result in injury to the animal.

Ataractic agents have proved useful in controlling hyperexcitable and nervous animals. Instead of depressing the higher cortical centers, these agents alter certain metabolic functions of living cells, those of nervous tissue in particular. Their use has reduced the need for physical restraint to a minimum.[2]

Promazine hydrochloride (Sparine*), one of the ataractic agents, has been effective when used alone to control horses for physical examination, roentgenography, and roentgen therapy.[3] Often, the drug is adequate without local anesthetics for minor surgical procedures. Even when large doses are used, the animal is steady, can move about without much danger of falling, is completely relaxed, and is almost oblivious to external stimuli.

One writer[4] treated a mare with tetanus by administering penicillin, dihydrostreptomycin, and tetanus antitoxin. Promazine hydrochloride was given simultaneously and, in his opinion, this drug "effected such relaxation of muscles under tetanic spasms that exhaustion, suffocation, and collapse were prevented and thus treatment facilitated with antibiotics and antitoxin."

One of the most important advantages of promazine as a preanesthetic agent is elimination of the excitement stage during the induction of surgical anesthesia.[1] The use of other agents to avoid the excitement stage causes the loss of muscular coordination and, as a result, the animal may fall.

In animals of more nervous temperament, increased amounts of drugs such as chloral hydrate and magnesium sulfate must be used to induce narcosis; occasionally, respirations become irregular and respiratory failure may occur. Too, a long recovery period with incoordination makes the use of many agents unsatisfactory. With the use of promazine, the recovery period is rapid and coordination returns more quickly.[2,3]

PROCEDURE

The 104 horses in this study were allotted to groups according to procedure or purpose of treatment: dental work, 45; blacksmith work, 3; tranquilization for shipping, 4; clipping hair, 3; colic, 7; apply metal ring to penis to prevent masturbation, 3; cleanse penis and prepuce, 3; castration, 3; nerve block for purpose of firing, 5; as preoperative medication with general anesthesia, 2; facilitate handling, 4; injection of joints, 3; miscellaneous, ** 19.

The weights of the horses varied from approximately 800 to 1,100 lb. (363.8 to 498.9 kg.). The amount of promazine administered was determined according to body weight (0.2 to 0.5 mg. per lb. or 0.4 to 1.0 mg. per kg. of body weight). It was given intravenously in 93 subjects, intramuscularly in 10, and intravenously and intramuscularly in 1. Of the 104 subjects, 92 were given promazine alone; 1 was given promazine and antibiotics; 8 were given promazine and a local anesthetic; and 3 were given promazine and a general anesthetic (462 gr. of chloral hydrate and 386 gr. of magnesium sulfate per 100 cc. of solution).

Drs. Dawson, Lickfeldt, and Brengle are general practitioners in Plymouth, Mich.

*Sparine is produced by Wyeth Labs., Philadelphia, Pa.

**Tetanus, treatment of eye, injection of stifle joint, drain abscess etc.

RESULTS AND DISCUSSION

Complete tranquilization was obtained in 61 (58.6%) of the animals, moderate tranquilization in 18 (17.4%), and slight tranquilization in 20 (19.3%). In 5 (4.7%) subjects, there was no apparent change. Side effects were not evident in any of the horses.

The variety of instances in which promazine hydrochloride may be used alone appears to be unlimited. Procedures which normally required local anesthetics were accomplished with the use of promazine alone; e.g., lancing of an abscess, examination of the penis, applying ring to penis, and removal of ring from penis. It was also successfully used in calming patients prior to nerve block.

Promazine was an excellent preanesthetic. The usual amount of chloral hydrate solution required was reduced approximately one third. The recovery period also appeared to be much shorter than when a general anesthetic was used alone.

REPORTS OF CLINICAL APPLICATION

Because promazine in proper dosage does not interfere with normal locomotion, eating and drinking, or the usual reflexes, it can be used in various instances. Clinical examples follow.

1) A mare became a "stall walker" shortly after foaling and refused to permit the foal to nurse. Under the effect of promazine, she became calm and the foal was able to nurse.

2) Colts were often difficult to handle the first two or three times they were shod. Promazine produced excellent tranquilization in these animals and saved time and effort.

3) The density of the bone structures of horses makes it necessary to prolong exposure time during roentgenography. Promazine calmed the animal to the extent that he remained quietly in one position for the time required to obtain a clear roentgenogram. It also was advantageously used in roentgen therapy.

4) Dental work or "floating teeth" in horses is a problem. In order for teeth to be floated properly, the animal's head must be held straight. The use of promazine reduced the amount of restraint necessary and reduced the number of personnel required.

5) A metal ring on the penis of a stallion had been in place for a considerable time. It was too small, and had become imbedded in the tissues a depth of one-half inch. Promazine relaxed the penis, the ring was cut off, and the wound was treated. Ordinarily, this procedure would have required the use of a general anesthetic.

6) In cases in which difficult micturition was involved, promazine was effective in relaxing the musculature sufficiently to permit urination.

7) Some procedures are best carried out if the animal is in a standing position. For example, when injecting joints, the increased pressure makes it easier to aspirate the joint fluid. Promazine permitted the horse to remain in a standing position and his anxiety was sufficiently reduced to eliminate struggling, thus minimizing the risk to animal and operator.

8) Many colts and some mature horses are difficult to load in a trailer or are excited during and after the trip to the extent that trainers are forced to rest them for days before they may be entered in competition. Promazine relaxed them sufficiently to allow them to go into training immediately after shipment.

9) For a 1,000-lb. horse showing signs of tetanus, initial treatment included 4 million units of penicillin G and 5 Gm. of dihydrostreptomycin sulfate, intramuscularly, and 500 mg. of promazine intravenously. Ten doses of 2 million units of penicillin G and 2.5 Gm. of dihydrostreptomycin sulfate, and eight intravenous infusions of 500 cc. of 5 per cent dextrose were given at 12-hour intervals. Six hours after the initial intravenous injection of promazine, intramuscular doses of 500 mg. were given at eight-hour intervals; after four doses, the interval between doses was reduced to four hours to control spasms more effectively. Tetanus antitoxin was not given. Response to medication was satisfactory and recovery was uncomplicated.

CONCLUSIONS

Of 104 horses to which promazine was administered intravenously, intramuscularly, or both, complete tranquilization was induced in 61, moderate tranquilization in 18, and slight tranquilization in 20. In 5, there was no apparent change. Side effects were not evident in any of the horses. The results were satisfactory, not only

from the standpoint of patient response, but also to the operator and owner.

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Twinning Undesirable in Dairy Cows

Of 7,387 calvings over a period of 30 years in a Holstein-Friesian herd, twins occurred 336 times (4.58%) and triplets occurred twice. Both calves were males 108 times, both females 74 times, and mixed sexes occurred 104 times. The twinning rate was 1.3 per cent for the first calving, 4.4 per cent for the second calving, increasing to 7.1 per cent at the tenth calving. Mortality among twin calves was high (about 38%) and the incidence of relative infertility, largely due to the increase in retained fetal membranes, was much greater after twinning.—*J. Dai. Sci. (March, 1959): 512.*

Inducing Twins for Beef Production

Many dairymen dislike twins since the cow is often in poor condition, gives less milk, and frequently retains the fetal membranes.

For beef production, however, inducing twins by injecting pregnant mare's serum (PMS) on the seventeenth day after estrus may be desirable. When the bull is with the herd, it is more difficult to detect estrus, so that the injection can be made 17 days later. This difficulty can be overcome by expressing the corpus luteum from the ovaries of all cows which have a large and active corpus luteum, and by injecting the hormone at the same time. Most of these cows could be bred in about four days. The remaining cows could be examined and similarly treated ten days later. The number of multiple ovulations can be discovered by rectal palpation about ten days after estrus, and the information can be used in regulating the dose of PMS for later use in a similar herd.

The dose of PMS has not been definitely determined but will vary with the breed, size, and age of the cow, and with the preparation of the hormone used. If an overdose is given, four or five follicles may be produced, resulting in too many fetuses. Therefore, low doses should be tried at first. If more than 2 embryos result, the excess amniotic sacs could be ruptured when detected by palpation after 35 days.

The number of premature births and retained membranes might be reduced if the cows' rations are increased during the last eight weeks of pregnancy.—*John Hammond in Vet. Rec. (Feb. 28, 1959): 168.*

A Twinning Experiment

In a Hereford-producing area in Wales, an experiment is under way to determine whether the number of twins produced can be increased by injecting pregnant mare serum (PMS) into the cows three or four days before they are bred. About 2,000 cows will be treated the first year.—*Vet. Rec. (Jan. 10, 1959): 33.*

Oils, Fats, and Bloat in Cattle

In a study, under laboratory and feedlot conditions, giving a bloat-susceptible cow 1 oz. of oil or fat just before a feeding of alfalfa tips prevented bloat. When given during the development of bloat, this increased the rate of eructation and the volume of gas expelled, and reduced intrarumenal pressure within 15 minutes.

When bloat was prevented, there was a marked increase in alfalfa consumption. The effect of the oils, even up to 8 oz., did not continue to the next feeding. Even during the development of bloat, the eructation contractions were sufficient so that acute bloat could be prevented by clearing the cardia of foam.—*J. Dai. Sci. (Feb., 1959): 333.*

New All-Breed Butterfat Record

A 2,100-lb. registered Brown Swiss cow in New Jersey recently set an all-time, all-breed record for butterfat produced for 365 days when milked three times daily. Her record of 1,733.13 lb. of butterfat was derived from 34,810 lb. of 4.98 per cent milk; over 100 lb. more butterfat than the previous record.—*Hoard's Dairyman (May 10, 1959): 524.*

Nutrition

Osteomalacia in Horses. I. Nutrition as an Etiological Factor

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FOR GENERATIONS our forebears have been in accord as to the basic diet of the Thoroughbred horse. Today, as in the past, many horses are provided with pasture, hay, grain, salt, and water, and a hope for the best. Some attempts have been made to supplement the diet and stimulate growth by adding excessive carbohydrates for the younger animals.[1] In spite of this, the younger animals of today have remarkably well-balanced metabolisms. In some respects, we are beginning to accept a routine of treating younger horses as convalescents instead of trying to establish foundations for true athletic form. Anything that affects the only yardstick of success in the horse racing business—winning—is bound to be an important consideration in dealing with the many new problems associated with soundness in race horses.

Many of our more pressing problems have been passed off as the results of heredity. Meanwhile, little controlled research has been done on the possibility of influencing abnormal patterns of assimilation in retarded individuals by the use of specific diets and internal medication. Our concepts regarding the requirements for sound racing animals need to be modernized. Instead of accepting the fallacy that we can raise a super horse with a super diet, we should strive to raise normal animals on normal diets and by enhancing normal patterns of assimilation.

A "balanced diet" should not be considered sufficient; the actual metabolic efficiency of dietary constituents in the various natural foods must be considered. The degree of soil fertility and the type of grain and roughage used are important, but so is the pattern of assimilation which permits the animal to use these products in body synthesis.

Malnutrition is generally on a subclinical level and, therefore, is not detectable. Adequate nutrition is necessary for health and soundness. Our aim toward soundness should be preventive in nature. In this respect, there is no substitute for clinical acumen in the application of nutritional or diet therapy.

The purpose of this paper is to show that by means of blood chemistry certain deficiencies of vitamins and minerals can be shown to exist in horses, and can also be corrected more properly with known and unknown green grass factors than with the artificial supplementation of inorganic minerals and vitamins.[1,2,3] In other words, it does not seem sufficient to restore a given vitamin or mineral to a diet; whether they are being assimilated must be determined.

A RESUME OF NUTRITION AND NUTRITIONAL STUDIES

With only meager funds available for research on equine subjects, in recent decades, it has been necessary to depend largely upon the observations of qualified clinicians for the development of new facts concerning diseases of horses. However, this is a slow way to solve complex problems; scientific research is much speedier. Let us, therefore, review the work that has been done in the field of horse nutrition in recent years.

The skeleton not only serves as an architectural basis for the body but it is one of the more vital systems and has three main functions: (1) protective and supportive, (2) blood building, and (3) storehouse for minerals. While a general disease of the skeleton may not be apparent, it can have a direct effect upon the health and vigor of the animal.

One general disease of the skeleton of the horse has been recognized for over 150 years. It was first called "big head," then osteoporosis, later osteomalacia, and lastly by Theiler-osteodystrophia.[2] It has also been called other names such as osteitis fibrosa, cachexia osseis, rarefying osteitis, Miller's disease, bran disease, and millet disease. None of these adequately describes the true condition, because in addition to bone changes, there is nerve involvement. If there is a complete degeneration of certain sections of the spinal cord, there will also be peripheral nerve trunk degeneration.

Dr. Bardwell is an equine practitioner in Paris, Ky.

At various times and places, big head in horses has been responsible for huge economic losses. However, these losses have in no case amounted to 1 per cent of the losses due to strains, sprains, arthritis, and exostoses such as spavin, ringbone, and sidebones. These conditions, which are obviously local signs of some general ailment, have often been treated as local conditions caused by real or fancied injuries or faulty conformation. Research by veterinary officers in the army has shown that these conditions may be merely early manifestations of big head or osteomalacia.[2-9] Although army veterinarians observed nerve involvement in this disease, a more thorough study is reported from the Royal Veterinary College in Edinburgh, Scotland.[7,8]

History of Big Head in Horses

During the early settlement of the United States, big head was most common east of the one hundredth meridian. It was not found in the range country. It was seen in Kentucky, Tennessee, and Ohio in the 1830's; in the southern states in the 18-50's; and in Missouri and Kansas by 1860. Like malaria, it seemed to follow trails of the wagon trains. At first it was thought to be only a disease of rural areas, but as the cities grew, it became common there also. It was seen in New York City in 1832; in Charleston, S. Car., in 1840; in Cincinnati and Louisville in 1844; and was common in St. Louis in 1859.[2] One observer reported 2,800 cases in the Mississippi Delta region between 1852 and 1858.[2] Descriptions of this disease all agreed that true recoveries were rare.

The first report concerning its treatment was from Oregon in 1855. The disease was attributed to an excess of phosphorus in the drinking water. In 1866, it was reported to be due to "improper feed," principally the use of corn fodder as roughage.[2] This theory was generally accepted until the 1880's, when many began to consider it as due to an infection. However, veterinarians usually considered it mainly a nutritional problem. In North Dakota, it was attributed to millet feeding and called "millet disease." The French have called it "bran disease."

The most astonishing thing about the disease has been the common failure to recognize the milder forms as being the same disease as the more severe or more apparent forms, even though it was generally known that lameness (frequently shifting or intermittent) was often an early sign of big head or osteomalacia. If the progress of the disease was halted or if the animals were destroyed because of their impaired usefulness, it was not diagnosed as osteomalacia.

This is still true of the present-day problem of incoordination in horses known as "wobblers." No one has tried to develop evidence that the wobbles syndrome is of nutritional origin. (In another article it will be shown that one type of wobbler is a manifestation of an intermediate form of osteomalacia. There is an imbalance in calcium and phosphorus ratios. British workers[7] have suggested that there is also an imbalance in protein metabolism due to the prolonged lack of sufficient carotene and vitamin A during the prenatal and early life stages.)

Improper Shoeing as a Cause of Lameness.—From the close of the Civil War into the forepart of the twentieth century, nearly all lamenesses in horses, except those assignable to a conspicuous cause such as a broken leg, were thought by many to be due to some fault in shoeing. Veterinary meetings and literature were largely devoted to long discussions on the proper way to shoe a horse. Various types of shoes and systems of shoeing were evolved to take care of these occult lamenesses. Reputations and fortunes were made overnight with the turning of a shoe. Congress once proposed giving an ignorant quack $25,000 to teach our army officers the proper way to prepare a horse's foot for shoeing. This merely reflected the shoeing mania that had possessed many of the best veterinary minds in England in the 1700's.[2]

Hereditary Defects and Trauma.—In the early 1900's, lameness of the horse was less frequently blamed on improper shoeing. Instead, the blame was placed on traumatism. This theory is still generally accepted. Sidebones, ringbones, spavin's, curbs, splints, navicular disease, strained ligaments, bowed tendons, and other lamenesses were considered the result of bruising or pounding of the pavement or tracks during violent exertion. However, since this theory does not explain such things as why sidebones commonly occur in all four feet, the theory of constitutional predilection was evolved.

With the development of this new theory, many laws were passed in the early 1900's, requiring the licensing of stallions for public service. According to this theory, a tendency to the skeletal diseases is inherited, and may be precipitated by traumas. This theory is still popular in some circles. Wobblers are still thought by many to result from hereditary defects and traumatism.

A coincidental change of feed often has been responsible for improvement, but treatments such as firing and blistering received the credit. No examination of the blood was ever made to properly determine if these animals were utilizing normal food components.

Horses are still fired and blistered or treated with various forms of radiation such as cobalt and x ray. This type of therapy may tend to mask the lameness but does not affect the cause of the condition. Why the limb was affected in the first place is seldom asked. Since the effects of nutritional upsets are more severe in horses in heavy training, there is a tendency for the animal to improve if it is made to rest.

In 1905, Dr. W. L. Williams challenged the theory of heredity and traumas as causes of lameness in a paper presented before the AVMA convention.[10] He suggested that these ailments, obviously constitutional and general in nature, might be caused by infective agents. He proposed that navicular disease, ringbones, spavins, and other bony growths were but local manifestations of a general disease of the skeletal system and that these conditions bore little or no relation to trauma.

Army Research in the Philippines.—The next information on this subject came after 1905, as the result of an army experience in the Philippines.[9] In carrying out an order of the War Department to use, as far as practicable, the products of the communities in which organizations were stationed, copra meal and palay were substituted for two thirds of the American oats formerly imported. Also, native rice hay replaced half the American hay. The gradual change of the ration, completed in the later part of 1925, was followed by disaster in 1926; 60 per cent of all these animals became either lame or stumblers and most of them were nearly unserviceable. Also, 16 per cent suffered from big head. An investigation by the Army Medical Research Board placed the responsibility for this condition on a calcium-phosphorus imbalance in the ration.

The ration of copra meal, palay, and rice hay provided a calcium-phosphorus ratio of 1.0:3.0. Investigations proved that a ratio of 1.0:2.0 was safe for well animals but that a ratio of 1.0:2.5 frequently resulted in the disease. On a calcium-phosphorus ratio of 1.0:1.0, the affected animals promptly recovered provided the disease had not progressed to a marked enlargement of the facial bones. Even in those cases, there was a marked improvement.

First Record of Applied Diet Therapy in the United States.—About the time of the Philippine incident, another interesting change in management was taking place at a plantation in Virginia where a veterinarian was employed as a consultant for two years.* Although the owner had acquired horses of good breeding and had spared no expense in their training, the results were disappointing. For a ten-year period, ending in 1926, this large stable had won an annual average of only $35,364.

The owner was inclined to place much of the blame on his 2 stallions which had sired most of his animals, since their offspring suffered from bad legs and weak joints. The physical condition and growth of the colts seemed satisfactory but representative blood analyses showed that these horses were badly deficient in calcium or phosphorus, or both.

In order to change this pattern of nutrition, a number of things were done. The large accumulation of cattle manure was spread on the land. The pastures were treated with a ton of burnt lime per acre. After the first rain, the pastures were reseeded with mixed clovers and a small amount of bluegrass, and 350 lb. of 16 per cent superphosphate was added per acre. After these applications on the far end of the pastures, it was hard to get the horses off these treated areas to come to the barns at night. Their preference for the fertilized and mineralized plots, which previously had been scorned, was unmistakable.

Furthermore, all the horse manure coming from the barn was spread in the

*Dr. R. L. Humphrey, Montville, Va.

cattle yard, and trampled by 40 cattle kept for this purpose. The cattle were fed cottonseed meal, shelled corn, ensilage, and hay, and hogs were kept with them to eat the grain remnants in the feces of the cattle. In working up the manure, the hogs exposed it to the air and sunlight, thereby hastening the destruction of parasites in the horse feces.

The feeding schedule and ration of the horses were changed. The feeds were no longer cpoked. Heavy oats with a large mineral content, green alfalfa leaf meal (1 pt. per feed), bran, yellow corn, and linseed meal were fed twice daily. An emulsion of calcium and phosphorus, in a cod-liver oil base, was fed for ten days and then suspended for ten days. The entire grain ration was based on the theory that hard grain makes hard horses.

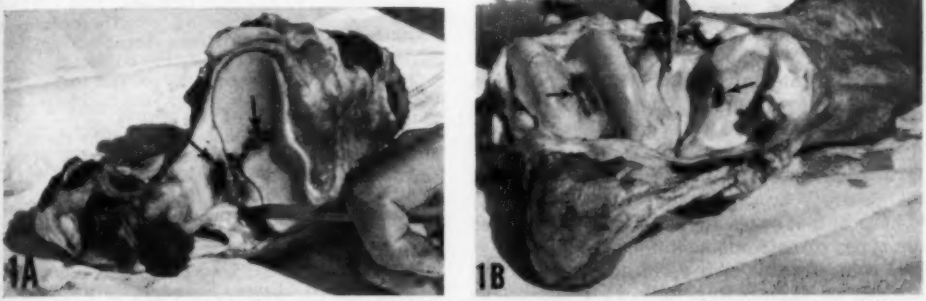

Fig. 1—Typical erosions (arrows) on articular surfaces of bones of horses with osteomalacia: (A) proximal surfaces of the radius and ulna (elbow); (B) tibiotarsal joint (hock) opened.

At the end of 90 days, blood samples from these horses indicated adequate intakes of calcium and phosphorus from the ration.

After two years on this nutritional program, the owner led the list of money-winners. He won $186,000 in 1927, and $234,640 in 1928. However, after the consultant left, these practices were dropped and the farm's earnings rapidly fell to about $36,000 anually.[6]

Investigations in Britain.—The terminal stages of osteomalacia, the stage in which there is a marked enlargement of facial bones, is rare in Britain. However, horses in England and Scotland do suffer from lamenesses of various types, often accompanied by exostosis or bony growth.[8]

Beginning in 1926, many horses that had suffered from lameness were completely dissected.[8] Regardless of where the lameness may have been, extensive involvement was found in almost all articulations. Joints in which there had been no lameness showed as much noninflammatory degeneration (fig. 1) as those in which the animal had been severely lame. These findings agreed fully with those in the Philippines except that the Philippine cases were far more severe, ran a more rapid course, and 16 per cent of them reached the terminal stage of big head.[7,8]

The army veterinarians had reported that affected animals were sometimes restless, and occasionally were unmanageable and vicious. The British study showed that horses with string halt, grunters, "jinked-back" animals (wobblers), and those that could not be backed or would not lie down in the stable, or that had a staggery gait, or were rearers, showed similar bone lesions as well as a noninflammatory degeneration of the trunks of peripheral nerves.

They were convinced that the condition was due to dietary faults and that, in Scotland, it was exclusively due to an unbalanced calcium-phosphorus ratio. They strongly suspected that a vitamin A deficiency was involved and called the condition "rheumatic disease." They apparently did not regard the skeletal involvement as either primary or of great importance.

Army Investigations in the United States.—In 1930, an officer of the U.S. Veterinary Corps,** who had been in the Philippines, was transferred to Fort Ben-

**Col. C. W. Greenlee.

jamin Harrison near Indianapolis, Ind. He found that osteomalacia was nearly as common in the horses of that army post as in those in the Philippines, but was much milder.[2] It progressed slowly and most of the animals were disposed of before reaching the big head stage. However, among the 350 animals at that post, 8 ultimately developed signs of big head. Quite a number also showed nervous derangements.

The disease was recognized as osteomalacia because of the uneasiness and shifting of weight from one hindleg to the other, the intermittent attacks of lameness, the frequent stumbling when trotting, the incurable lameness, spavins, sidebones, ringbones, navicular disease, various bony growths, fractures, and the enlarged facial bones in 1 or 2 per cent of the animals. These horses were showing different stages or types of osteomalacia.

From the foregoing, it seems that the causes of lamenesses in horses should be studied. Most horses have worked and raced hard all their lives without developing any disfiguring bony growth. Others have developed these blemishes while standing in a stall. This is as true today as it was a hundred years ago.

SUMMARY AND CONCLUSIONS

1) Anything that affects the success of the horse on the racetrack deserves consideration.

2) In the past, the role of poor shoeing and heredity as factors in lamenesses of horses have been overrated. Nutritional imbalances have been overlooked.

3) Diets that are recognized as properly balanced for horses may not be adequate for the modern racehorse. The actual metabolic values of various natural feeds must be considered. Skeletal diseases of the horse are associated with a calcium-phosphorus ratio of above 1.0:2.5.

4) In addition to the signs of osteomalacia found in army horses in the Philippines and in the United States, British workers have found extensive involvement of the articulations even when the horse had shown no lameness. They found that extensive joint surface erosions were common in mild cases but they did not emphasize spinal degeneration. They recognized that the osteomalacia could be due to a lack of calcium or of phosphorus but they felt that a vitamin A deficiency was closely related.

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Urolithiasis in Lambs Controlled by Force Feeding Sodium Chloride

The force feeding of 10 per cent sodium chloride as an integral part of a pelleted ration prevented the formation of both bladder and renal calculi. It was postulated that the increased water consumption necessitated by the salt resulted in the excretion of a more dilute urine with respect to a mechanism promoting mineral deposition, thus preventing calculous formation.

There was a higher incidence of clinical urolithiasis with the feeding of milo than with corn, but no difference in the amounts of renal calculi.

There was no difference between males and females in the amounts of renal calculi. That climatic stress may be an important etiological factor in clinical urolithiasis was indicated by the death of 5 of the 7 lambs from clinical urolithiasis immediately following a severe spring snowstorm.—[*R. H. Udall: Studies on Urolithiasis. III. The Control by Force Feeding Sodium Chloride. Am. J. Vet. Res., 20, (May, 1959): 423-425.*]

Dr. Price Now Editor in Chief of AVMA Publications

Dr. Donald A. Price, who joined the editorial staff of the American Veterinary Medical Association one year ago, became the editor in chief on July 1, 1959. He is the fifth full-time editor of AVMA publications.

The first full-time editor was Dr. H. Preston Hoskins who served solely as editor for only a few months in 1939, but who had become the first full-time secretary-editor of the AVMA in March, 1923, the eighth year of the JOURNAL'S existence. The first to bear the title of editor-in-chief was Dr. L. A. Merillat who had served in the dual capacity of secretary-editor for over a year until Dr. John G. Hardenbergh became the executive secretary in January, 1941. Dr. Merillat, upon retiring, was succeeded as editor-in-chief in 1950 by Dr. R. C. Klussendorf, who served for over a year. Dr. W. A. Aitken served in that capacity from February, 1952, until now.

In his year of "apprenticeship," Dr. Price has spent some time working with the executive staff and some of the association councils to get a more complete picture of AVMA activities. This, with his previous experiences as a military personnel officer, a research worker in large animal diseases, and a practitioner, along with his native talents and integrity particularly qualify him for his new duties.—W. A. AITKEN.

Penicillin in Market Milk

An article on the dangers of penicillin, published in the May 23, 1959, issue of *The Saturday Evening Post*, begins with the sentence, "No prescription medicine in modern times has been demanded more and given oftener than penicillin." It goes on to report that more than 1,000 fatal reactions to this drug have occurred in man in the United States since 1946, that penicillin is said to account for nearly half of the drug-induced [skin] eruptions, and that a few reactions have been attributed to traces of the drug in milk. Admittedly, the percentage of fatal reactions is low, since the world production of penicillin is about 500 tons per year, but the dangers of penicillin are nevertheless disturbing to all who recognize the full scope of the problem.

With respect to penicillin in market milk, the Food and Drug Administration has found, through surveys, that the drug concentration in such milk has been reduced considerably since 1957 and attributes this to a farmer-education program and to F.D.A.'s action in limiting the penicillin content of bovine mastitis preparations to 100,000 units/dose.

It has been estimated that perhaps 10 per cent of people treated with penicillin develop some degree of allergy to it. Although reported reactions to penicillin in milk are few, market milk containing the drug is considered to be adulterated.

If penicillin for treatment of mastitis were restricted to sale by prescription only, the amount of the drug in market milk would fall to extremely low levels. In this instance, the objectives would be to promote the selective therapeutic use of penicillin and to discourage those farmers who add the drug to bulk milk in order to lower its bacterial count.

On the other hand, if a practical test for detecting penicillin in milk at processing plants were developed, it would doubtless be enthusiastically accepted and applied by the dairy industry. It would also provide an effective tool with which control agencies could enforce the regulation which requires that milk from antibiotic-treated udders be withheld from market at least 72 hours after the last treatment.

A third possible solution, advanced by only a few and vigorously rejected by most, would be the prohibition of penicillin for veterinary use.

ATTITUDE OF THE AVMA

The attitude of organized veterinary medicine was reflected in a recent AVMA letter to the Council on Drugs of the American Medical Association. It stated that the AVMA would support any action restricting preparations such as penicillin for treatment of bovine mastitis to sale by prescription only; that there is an adequate number of veterinarians to supervise and provide this form of treatment; that since penicillin is the preferred drug for treating certain types of bovine mastitis and other animal diseases, its complete removal from veterinary use would constitute unwarranted interference with veterinary service; and that the use of testing procedures for revealing penicillin in market milk would be desirable.

Current Literature

Abstracts

Effects of Rations on Urolithiasis

A study was made of the effects of certain rations, previously shown to promote or inhibit the incidence of clinical urolithiasis, on the patterns of excretion of urinary mucoproteins. The concentrations of the urinary mucoproteins were found to be inversely proportional to the levels of minerals or ash in the ration, but under the conditions of this trial, the ash content of the ration did not affect the total amounts of these materials excreted per day.

Evidence was presented that the concentration of the mucopolysaccharide portion of the mucoproteins of the urine was correlated directly to the level of concentrates in the ration, and the hypothesis was advanced that the correlation was the result of the increased tissue turnover rate induced by an increased growth rate.

Evidence was also presented that the level of the protein fraction of the mucoprotein in the urine was not related to the amounts of concentrate fed. This suggests that the two portions of the complex are derived from different sources.—*[R. H. Udall: Studies on Urolithiasis. IV. The Effects of the Ration on the Predisposition as Measured by the Urinary Mucoproteins. Am. J. Vet. Res., 20, (May, 1959): 426-429.]*

Studies on the Uterus of the Sheep

The cyclical changes in the inorganic iron reaction, mucoprotein content, nucleic acid, lipids (phospholipid), and alkaline phosphatase has been studied in the uteri of 50 Blackface ewes. Inorganic iron secretion appeared in late proestrus, was strongest in estrus, and disappeared thereafter.

Mucoprotein secretion started in the same phase of the cycle, but the peak of the secretion came in diestrus. Secretion of lipid started only in metestrus and disappeared in mid-diestrus. High ribonucleic acid and alkaline phosphatase activity was noticed in diestrus.—*[Robert Hadek: Histochemical Studies on the Uterus of the Sheep. Am. J. Vet. Res., 19, (Oct., 1958): 882-886.]*

Control of Hog Cholera Virus Leukopenia

The effect of subcutaneous injections of *Hemophilus pertussis* on the leukocytes in the normal weanling pig as well as in the pig vaccinated with hog cholera virus was studied; observations were also made on hog cholera immunity.

It was concluded that: (1) *H. pertussis* bacterin produced a marked leukocytosis when injected subcutaneously in the normal weanling pig. (2) The pattern of leukopenia that usually follows vaccination with modified hog cholera virus can be altered considerably by appropriately timed injections of *H. pertussis* bacterin. (3) *Hemophilus pertussis* injected by the subcutaneous route and given at two-day intervals after virus vaccination can be used to maintain the leukocytes within the normal range. (4) The hematological condition of leukopenia that usually follows vaccination with modified hog cholera virus appears to be necessary for the development of a strong immunity.—*[J. Clark Osborne: The Successful Control of Hog Cholera Virus Leukopenia with Hemophilus Pertussis Bacterin. Am. J. Vet. Res., 19, (Oct., 1958): 902-906.]*

Electrophoretic Mobility of Canine Serum Maltase

Dog serums were subjected to filter paper electrophoresis. After migration of the proteins, the filter paper strips were cut into 1-cm. segments. Proteins of corresponding segments of duplicate strips were eluted together in 8 ml. of a maltose solution prepared in 0.02-M phosphate buffer solution (Na_2HPO_4/KH_2PO_4), pH 6.6. Increased reducing power of the solution after three hours' incubation at 39 C. demonstrated maltase activity.

When the maltose concentration was 5.6×10^{-4} M, maltase activity was found associated with the *alpha*-1 and *alpha*-2 globulins, predominantly the leading edge of the *alpha*-2 globulin. When a higher concentration of maltose, 5.6×10^{-3}M, was used, maltase activity was completely blocked.—*[Ralph G. Skillen and Ruth McCandless: Electrophoretic Mobility of Canine Serum Maltase. Am. J. Vet. Res., 19, (Oct., 1958): 943-944.]*

Books and Reports

Mammals of North America

This two-volume encyclopedia, a monumental work, is a complete reference to the more than 3,800 mammals inhabiting the region from Greenland to Panama. It gives identification, bibliography, nomenclature, and distribution, and contains 500 original maps.

A brief general description precedes each order, but the physical characteristics of each family group are described in detail. There are keys to aid in identifying species.

Detailed measurements and drawings of mammals and their skulls make these volumes an unequalled fund of basic information on the native North American mammals.

Although of limited interest to the average veterinary practitioner, these volumes should be acquired by each veterinary college, zoological garden, or any institution or person dealing even infrequently with wild animals native to North America.—*[The Mammals of North America. By E. Raymond Hall and Keith R. Kelson. Vol. I and II. 1,083 pages. Ronald Press Co., 15 East 26th St., New York 10, N. Y. 1959. Price $35.]*

THE NEWS

Cambodia Visitor, Dr. Thiounn In, on Three Month Tour of U. S.

Dr. Thiounn In, chief of the municipal veterinary service in Pnom-Penh, capital of Cambodia, arrived in Washington, D. C., on Feb. 5, 1959. During his three-month tour, he visited New York City; Laredo and Waco, Texas; the University of Illinois; Omaha, Neb.; and Chicago, Ill., including a visit to the AVMA offices on May 7; before leaving Washington, D. C., on May 16.

Under the auspices of the International Cooperation Administration in cooperation with the U. S. Department of Agriculture and Land-Grant Colleges, Dr. In participated in an intensive course of training in animal inspection and quarantine,

Dr. Thiounn In

Native Cambodian cattle. The tethers are made of woven coconut husks.

The slaughter house in Pnom-Penh, the capital of Cambodia.

Cambodians unloading "baskets" of hogs from a typical truck in which they are transported as far as a hundred miles. To save space, hogs in these "baskets" are placed three to five deep.

Hogs, in "baskets" are shown at the abattoir in Pnom-Penh, Cambodia, after having been unloaded from trucks.

within the scope of the U. S. laws and regulations governing the importation of livestock.

Dr. In holds a degree in veterinary medicine from the National Veterinary Schools of Toulouse and Alford, in France, which he attended from 1946 to 1951. Prior to becoming chief of the municipal veterinary service in Pnom-Penh in 1952, he was sub-director of the veterinary service there.

Commenting on the conditions in Cambodia, Dr. In said that while private practice is possible there, not too many veterinarians engage in it because most of the farms support one family and the demand for private veterinary services is limited.

About the size of Arkansas, Cambodia supports a population of 5 million. Most of the land is tillable and rice is the main food; fish is next in popularity because it is so cheap.

Dr. In reported that Cambodia intends to increase its production of 400,000 chickens, and in an attempt to improve its swine production, it is importing Yorkshire hogs from Japan and Australia. Water buffalo are bred in Cambodia and do the work of horses and mules. They are also exported.

Dr. In said that even though there are many political differences among the countries surrounding Cambodia, there is cooperation among them on the subject of disease control.

First AVMA Science Youth Awards

The AVMA's first annual Science Youth Awards were presented at the Tenth Annual National Science Fair (May 6-9, 1959) in Hartford, Conn., at the American Medical Association's banquet on May 7, in which the American Dental Association also participated. The other judging teams from the Navy, the Air Force, and the National Science Fair presented their awards in the physical and biological divisions on May 8 and 9.

Drs. T. C. Jones (WSC '35) and C. H. Cunningham (ISC '38), of the AVMA Council on Research, selected the two winners on the basis of their biological exhibits. Recipient of the first AVMA Science Award plaque was Wilhelm Delano Meriwether, 16, of Charleston, S. Car. He has been invited to display his exhibit at the Ninety-Sixth Annual Meeting of the AVMA in Kansas City, Mo., August 23-27. In addition, Mr. Meriwether received a fourth place award from the National Science Fair judges at their luncheon in Hartford on May 9.

Mr. Meriwether, who hopes to follow veterinary medicine as a career, worked last summer and after school at Dr. Robert R. Willis' (GA '32) animal hospital in Charleston and under his guidance developed the winning exhibit. His project, "Internal Parasites of the Dog," deals primarily with the common parasites found in dogs and the methods of diagnosis and treatment, including the life cycle of parasites.

Wilhelm Delano Meriwether, 16 of Charleston, S. Car., is awarded the first AVMA Science Youth Award plaque from Dr. T. C. Jones. He has been invited to display the exhibit at the Ninety-Sixth Annual Meeting of the AVMA in Kansas City, August 23-27.

Dr. T. C. Jones, chairman, AVMA judging committee, presents an alternate Science Youth Award to Martin Grosvenor Myers, 17, of Washington, D.C., at the Tenth Annual National Science Fair, May 7, 1959, in Hartford, Conn.

Alternate Winner

Martin Grosvenor Myers, 17, of Washington, D. C., was the alternate winner and was awarded a plaque for his exhibit on the "Isolation of Viruses from Healthy Dairy Cattle." Mr. Myers hopes to follow his father's career in medicine.

Each of the 320 exhibitors reached the National Science Fair after winning over the competition in their high schools and regional science fairs. Finalists came from the United States, Canada, Puerto Rico, Germany, and Japan.

The Eleventh National Science Fair will be held in Indianapolis, Ind., in the Field House of Butler University, May 11-14, 1960. Approximately 350 finalists will represent 180 to 200 affiliated fairs and Thailand will be added to the list of the participating foreign nations.

s/B. F. FORSTER, *Recorder.*

(See the JOURNAL'S *newest feature, the PR page on adv. p. 45, for more about the National Science Fair.—Ed.)*

Animal Care Panel to Meet in October

The tenth annual meeting of the Animal Care Panel will be held at the Sheraton Park Hotel in Washington, D. C., on Oct. 29-31, 1959.

The formal program will consist of six sessions of four papers each. Acting as chairman of two of the sessions will be: Dr. W. C. Dolowy (ILL '53), University of Illinois—housing and management; and Dr. Robert J. Flynn (MSC '44), Argonne National Laboratories—disease.

Several movies on the care of laboratory animals that have been filmed in the last few years have been selected by the program committee and will be shown continuously each day of the convention.

Programs and information on the meeting will be mailed about August 1. To date, there are 70 commercial exhibits and a large number of scientific exhibits being planned.

s/WILLIAM I. GAY, *Chairman, Publicity Committee.*

Dr. R. E. Willie Elected President of N. A. F. V.

Dr. Roy E. Willie, chief, U.S.D.A., A.M.S., Poultry Division, Inspection Branch, recently succeeded the late, Dr. Walter H. Hannemann (*see* the JOURNAL, April 1, 1959, p. 342), as president of the National Association of Federal Veterinarians. This Association is open to all veterinarians employed by the federal government.

Dr. Willie graduated from St. Joseph Veterinary College, St. Joseph, Mo., in 1922.

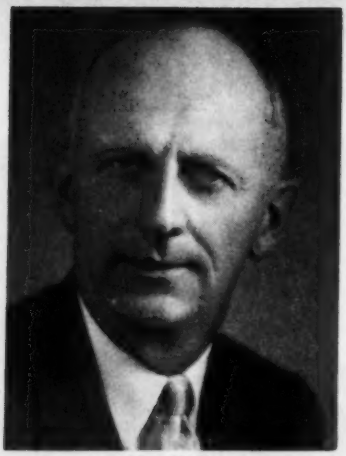
New Zoonoses Center in Argentina

The Pan American Sanitary Bureau officially inaugurated its Pan American Zoonoses Center in Azul, Argentina, on April 25, 1959. The Center is an institution dedicated exclusively to the study of diseases that are transmitted between animals and man.

The new center is 185 miles south of Buenos Aires, in the province that shares the Argentine Capital's name. It is administered by the Bureau and financed by the Pan American Health Organization, the Bureau's executive organ. It also receives technical assistance from the United Nation's World Health Organization and the Organization of American States. Dr. Benjamin Blood is director of the Zoonoses Center.

In 1956, health leaders recognized the drain that zoonoses cause on the health and economy of the Western Hemisphere. This led to the signing of an agreement between the Argentine government and the Pan American Health Organization for the establishment of the Center and the selection of Azul as its headquarters.

New Jersey
Dr. Myron S. Arlein
(ISC '38)



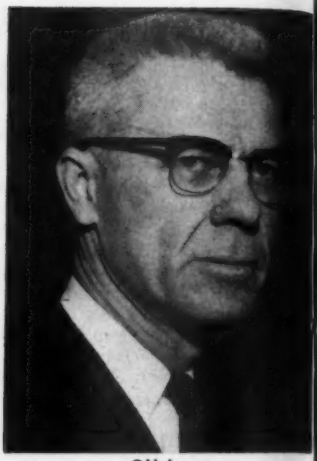
New York
Dr. Peter Olafson
(COR '26)

North Carolina
Dr. Bill H. Kinsey
(API '41)

Part III

North Dakota
Dr. Donald K. Christian
(KSC '42)

Ohio
Dr. C. D. Barrett
(OSU '23)



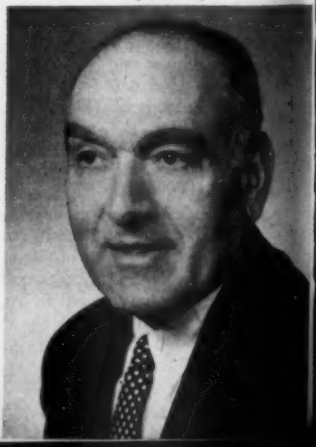
Oklahoma
Dr. James B. Corcoran
(COL '34)

Presidents of Constituent Associations

Ontario
Dr. Russell J. McDonald
(ONT '45)

Oregon
Dallen H. Jones
(WSC '41)

Pennsylvania
Dr. Alan Bachrach
(UP '28)



ALOHA . . .

. . . to All Veterinarians in Hawaii

With statehood for Hawaii becoming official this month, the AVMA extends greetings and best wishes to all the veterinarians in Hawaii.

Hawaiian Veterinarians Fly Too

Within the continental states, many veterinarians must use airplanes in their practices. This is also true of our newest state, Hawaii, where air transportation is sometimes the best and the only means by which to solve the problem of distance among the many islands of the Hawaiian group.

Dr. Wilson Pang (WSC '38), a native of Hawaii, has logged over 1,500 hours of overwater air time, in the past 15 years.

Of particular interest, is the fact that Dr. Pang takes care of the pets belonging to the patients of the Hansen's Disease (leprosy) settlement at Kalaupapa on Molokai. These animals are a great source of comfort to those isolated on this island.

Dr. Wilson M. Pang is pictured about to board his airplane to make a call on one of the islands in the Hawaiian group.

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Participants in the Last Meeting of the Hawaii Territorial V. M. A. on Feb. 7, 1959.

First row, left to right—Dr. Kid McCoy, Jr. (TEX '45); C. Eric Reppun, president, Board of Agriculture & Forestry; Dr. Wilson M. Pang (WSC '37); Dr. Gordon D. Wallace (COL '54); Dr. Charles B. Webster (CAL '54), president, Hawaii Territorial V. M. A.; Dr. George H. Murphy (STJ '20); O. C. Chock, entomologist, Board of Agriculture & Forestry; Dr. Nam Y. Chung (ISC '53); Dr. George Clark (WSC '58); Dr. Wallace T. Nagao (MSC '51).

Second row, left to right—Dr. Leslie A. Weight (COR '35); Dr. Kenneth S. Ishimoto (MSU '57); Dr. Roy R. Harada (MID '46); Dr. Ernest H. Willers (WSC '29); Dr. John M. Gooch (ISC '44); Major Frederick W. Clayton (OSU '44); Dr. Edward K. Nakagawa (MSU '56).

Third row, left to right—Dr. Arthur R. Glaisyer (TEX '46); Dr. Clarence H. Y. Ching (ISC '55); Dr. William F. Parker (WSC '38); Dr. Walter R. Haas (COL '49); Dr. Donald H. Wong (WSC '49); Dr. Roy S. Nagakura (KSC '46); Dr. G. C. Folger (WSC '37).

Not present at the time the picture was taken are the following: Dr. P. T. Nomura (KSC '36); Dr. H. H. Furumoto (KSC '50); Dr. Leonard N. Case (COR '08); Dr. John M. Hendershot (WSC '40); Dr. Joseph M. Sample (TEX '49); Dr. Edwin H. Wing (MSC '53); Dr. Robert E. Kissling (OSU '45); Major Leslie E. Meckstroth (OSU '44); Colonel C. E. Robinson (KSC '37); Lt. Colonel H. R. Faus (TEX '41); Capt. P. E. Lampru (API '49); and Lt. Colonel J. K. MacNamee (API '39).

AMONG THE STATES AND PROVINCES

Alabama

General W. O. Kester Receives Sixth Annual Zeta Award at A. P. I.—General Wayne O. Kester (KSC '31), U. S. A. F., (Ret.) was given the sixth annual Zeta Award by Omega Tau Sigma, Zeta Chapter, at the fraternity's

Omega Tau Sigma's sixth annual Zeta Award, at Alabama Polytechnic Institute, was presented to General W. O. Kester (left) by Dr. Don Ferris (center), then president of the Zeta Chapter. Dr. James E. Greene, dean, A. P. I.'s School of Veterinary Medicine, is at right.

annual senior banquet, at the Alabama Polytechnic Institute, in Auburn, March 4, 1959.

As guest speaker, General Kester discussed "What Is Ahead in the Veterinary Profession." He is a past president of the AVMA and is currently president of the American Association of Equine Practitioners.

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Tuskegee Institute's Seniors Visit Chicago.—Veterinary students from Tuskegee Institute were guests of the Army Medical Service Meat and Dairy Hygiene School, Chicago Administration Center, at 1819 W. Pershing Road, April 17, 1959.

The senior class of the School of Veterinary Medicine at Tuskegee Institute are shown being briefed by First Lieutenant R. R. Stewart, instructor, before their tour of the Army Medical Service Meat and Dairy Hygiene School and other Army installations at the Chicago Administration Center, on April 17.
U.S. Army Medical Service, Meat & Dairy Hygiene School Photo.

The class of thirteen seniors from the Institute's School of Veterinary Medicine observed the training afforded the military veterinarian by the Meat and Dairy Hygiene School, which conducts basic and refresher courses for Veterinary Corps officers and enlisted men. In addition, the commandant, Lt. Colonel J. J. Powell, arranged a tour of the Military Subsistence Testing Laboratory and the Quartermaster Food and Container Institute, also located at the Center.

Alberta

Alberta Association Meets.—The Alberta V. M. A. held its summer convention in the Jubilee Auditorium, in Edmonton, June 19-20, 1959.

Included in the scientific portion of the program were the following veterinarians: Drs. D. L. T. Smith, Ontario Veterinary College, Guelph—new diseases of Ontario swine and leptospirosis; L. A. Griner, Colorado State College, Fort Collins—clostridial diseases in cattle; R. D. Courter, U. S. Public Health Service, Atlanta, Ga.—veterinary medical responsibilities in public health and psittacosis; C. H. Bigland, Alberta Veterinary Services Branch, Edmonton—salmonellosis infections in domestic livestock; and T. W. M. Cameron, Institute of Parasitology, McDonald College, Quebec—parasites common to men and animals.

s/H. N. VANCE, *Chairman.*

Colorado

Dr. J. W. Hovorka Retires from Meat Inspection Station in Denver.—Dr. Joseph W. Hovorka (MCK '19), inspector in charge of the Denver meat inspection station, retired recently

Dr. Joseph W. Hovorka

upon completion of forty years of service. He has been in his Denver post for 13 years.

A native of Chicago, Dr. Hovorka entered the meat inspection service in July, 1919. Throughout the years, his varied assignments have included service in: Chicago, Ill.; Albuquerque, N. M.; Little Rock, Ark.; Kansas City, Kan.; Peoria, Ill.; and finally, Denver.

Dr. Hovorka is succeeded by Dr. Melvin E. Hodgson (see below).

s/C. H. PALS, *Correspondent.*

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Dr. M. E. Hodgson Succeeds Dr. Hovorka at Meat Inspection Station in Denver.—Dr. Melvin E. Hodgson (KSC '32) has been named inspector in charge of the U.S.D.A.'s meat inspection station in Denver. He assumed his new duties on February 1, succeeding Dr. Joseph W. Hovorka who retired recently.

Dr. Hodgson had served as assistant inspector in charge in St. Louis, Mo., since 1954. He is a native of Hutchinson, Kan.

s/C. H. PALS, *Correspondent.*

Dr. Melvin E. Hodgson

District of Columbia

Dr. J. M. Hejl Is Promoted.—Dr. John M. Hejl (TEX '43) was recently named assistant director of the Animal Inspection and Quarantine Division of the U. S. D. A.'s Agricultural Research Service.

During the past year, Dr. Hejl received his M.S. degree in microbiology at the University of Maryland.

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Academy of Veterinary Medicine Activities.—The District of Columbia Academy of Veterinary Medicine sponsored an all-day conference at the Shoreham Hotel in Washington, D. C., on April 17, 1959. Appearing on the program were: Drs. Irving Altman, Brooklyn, N. Y.—caged birds; William C. Glenney, Ardmore, Pa.—radiography; and J. Markowitz, Toronto, Can.—surgical physiology.

On June 11, Dr. Richard D. Turk, head of the parasitology department, A. & M. College of Texas, also addressed the Academy at a meeting held in the Shoreham Hotel.

s/BERNARD J. BERLINER, *Publicity Chairman.*

Iowa

Ames Auxiliary Formed.—The newly formed Ames Women's Auxiliary to the Iowa V.M.A. received approval of its constitution and bylaws on March 18, 1959. The Auxiliary's national charter was granted on April 21.

Pictured to the right are the officers and executive board members of the Ames Women's Auxiliary to the Iowa V.M.A.—April, 1959, to April, 1960.

Front row, left to right—Mrs. Richard L. Lundvall, president-elect; Mrs. I. A. Merchant, president; Mrs. George Fowler, recording secretary. Middle row, left to right—Mrs. Matthew Eggert; Mrs. J. P. Torrey; Mrs. B. W. Kingrey, treasurer; Mrs. Paul Bennett. Top row, left to right—Mrs. Wayne Kirkham, Mrs. J. E. Lovell, Mrs. Ward R. Richter.

Some of the objectives behind the Auxiliary's formation are: first, to welcome the wives of veterinarians and technological specialists with the new National Animal Disease Laboratory; secondly, to insure professional unity in the community; and thirdly, to support state and national projects.

Seventy-three members of the Veterinary Circle at Iowa State College, organized 32 years ago, were made charter members of the Ames Auxiliary.

s/MRS. I. A. MERCHANT, *President.*

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Central Iowa Association.—The Central Iowa V.M.A. met at the Breese House in Ankeny, on April 20, 1959, for a dinner meeting.

Dr. R. L. Lundvall of Iowa State College discussed "Shetland Pony Practice Problems."

s/STANLEY L. HENDRICKS, *Secretary-Treasurer.*

Mississippi

State Association Officers.—The Mississippi State V.M.A.'s current roster is as follows: Drs. J. W. Patterson, Columbia, president; W. C. Stewart, Picayune, president-elect; H. F. McCrory, State College, vice-president; and J. W. Branson, Jackson, secretary-treasurer.

s/J. W. BRANSON, *Secretary.*

Missouri

State Association Meets.—The sixty-seventh annual meeting of the Missouri V. M. A. was held at the Statler-Hilton Hotel in St. Louis, Feb. 27-28, 1959. Registration totaled 467.

Left to right—Dr. Thomas M. Eagle is shown receiving congratulations for his veterinarian of the year award from Dr. James K. Farrell, past president of the Missouri V.M.A., at the Statler-Hilton Hotel in St. Louis, February 28.

Among the principal speakers at the convention were: Drs. R. E. Rebrassier, Columbus, Ohio, AVMA president; Frank R. Booth, Elkhart, Ind., AVMA Judicial Council; Kenneth Whittington, Memphis, Tenn.; James H. Gillespie, Cornell University, Ithaca, N.Y.; Sam Elmer, Richland Center, Wis.; J. J. Fishler, Elkhart, Ind.; Erwin Small, University of Illinois, Urbana; John M. Gillispie, River Forest, Ill.; C. B. Hostetler, Des Plaines, Ill.; Carl H. Horstman, Collinsville, Ill.; W. R. Sheets, Farmington, Mo.; J. W. Brown, De Soto, Mo.; E. F. Ebert, University of Missouri; R. O. Nesheim, Chicago, Ill.; and George C. Shelton, University of Missouri.

Dr. Thomas M. Eagle (COL '38) was presented with the fifth annual Missouri "Veterinarian of the Year Award" at the State Association's annual banquet, on February 28. Since 1947, Dr. Eagle has operated a small animal practice in Parkville, Mo. He has devoted much time to local, state, and national veterinary organizations. Dr. Eagle's father and seven of his uncles were veterinarians; also his brother, Dr. Wallace R. (MID '44), who is practicing in Glen Ellyn, Ill.

Newly elected officers of the Association are as follows: Drs. W. H. Mowder, Independence, president; E. G. Bailey, Jr., Dexter, president-elect; Richard M. Keith, Kirksville, vice-president; and Paul L. Spencer, Jefferson City, was re-elected secretary-treasurer.

s/PAUL L. SPENCER, *Secretary.*

New York

Two Conferences Held at Cornell in January.—Over 600 veterinarians met at Cornell University, in Ithaca, N.Y., Jan. 6-9, 1959, to attend the Second Conference on Public Health and the fifty-first annual conference for veterinarians. Between the two conferences, more than 45 sessions, including lectures, movies, and laboratory demonstrations were presented.

Sponsored jointly by the U. S. Public Health Service, the New York State Health Department, and the New York State Veterinary College, the second conference on public health for veterinarians was held at the James Law Auditorium, on January 6. Veterinarians who participated in the program were: Drs. Ernest Tierkel, Atlanta, Ga.—rabies in bats; James Lieberman, Atlanta, Ga.—an epidemiological problem; and George Snook, Albany, N.Y.—proposed meat food products program.

The fifty-first annual conference for veterinarians (Jan. 7-9, 1959) was also held in the James Law Auditorium with the exception of an afternoon session in the clinic of the veterinary college.

The entire program was dedicated to Dean William A. Hagan who retired on June 30, after having served the veterinary college since 1916. Dr. Hagan will assume the post as director of the U. S. Department of Agriculture's new Animal Disease Laboratory in Ames, Iowa, effective Jan. 1, 1960 (*see* the JOURNAL, Feb. 1, 1959, p. 151).

Program participants from the New York

Election of alumni officers followed the annual meeting of the Alumni Association of the New York State Veterinary College at the fifty-first conference for veterinarians, in January. The new roster includes: left to right—S. S. Atwood, provost at Cornell; Dean W. A. Hagan, Dr. John S. Proper, president; Dr. E. N. Coye, vice-president; Dr. A. F. North, past president; Dr. S. J. Roberts, secretary-treasurer.

State Veterinary College and their respective subjects were: Drs. Robert W. Kirk—artificial insemination in dogs; Joseph H. Gans—organic phosphates poisoning; Charles G. Richard—canine skin tumors; James A. Baker, James H. Gillespie, and Thomas F. Benson—canine distemper immunizing products; William A. Hagan—veterinary medicine in the Soviet Union; Francis H. Fox—teat surgery; Richard S. Gutherie—milking machine defects; Jack C. Geary—radiology in large animal diagnosis; Stephen J. Roberts—slings for cows and breeding problems; Robert W. Dougherty and H. E. Bond—anesthesia and forced artificial respiration; Robert E. Habel—anatomy of the bovine digit; John F. Kavanaugh—amputation of the bovine claw under local nerve block and under general anesthesia, respectively; and Donald D. Delahanty—enucleation of the eye.

Among the many other contributors to the three-day conference were the following veterinarians: Drs. William Kaplan, Chamblee, Ga.—fungus diseases and their public health significance; Todd O. Munson, Boston, Mass.—clinical entities-abdominal; Robert B. McClelland, Buffalo, N.Y.—abdominal radiographs; Robert W. Menges, Chamblee, Ga.—leptospirosis; Merlin L. Kaeberle, Urbana, Ill.—rabies; Vincent J. Peppe, Canaan, Conn.—mixed practice sterility problems; R. D. Radeleff, Kerrville, Texas—toxicology of insecticides for farm animals; Warren J. Kilpatrick, Mediapolis, Iowa—veterinary economics; Arthur W. Patterson, Jr., Hanover, Pa.—horse breeding; Raimunds Zemjanis, St. Paul, Minn.—sterility problems; Roland G. Whitehead, Springville, N.Y., Clayton S. Young, Geneseo, N.Y.—foot restraint; and Harry F. Burghardt, Auburn, N.Y.—bovine claw amputation under general anesthesia.

North Dakota

Dr. J. F. Hinz Honored for Fifty Years Service in Same Community.—Dr. John F. Hinz (CVC '09) was honored by his city and community on the golden anniversary of his arrival in Lidgerwood, April 9, 1959.

Dr. John F. Hinz

In the early days of his career, Dr. Hinz's practice was devoted to horses and the now little-known disease, glanders (almost always fatal to both horse and man), was one of his chief problems. His practice is now largely concerned with pet animals.

He served on the city council for many years, as chairman of the school board for 15 years, and as a member of the North Dakota State Livestock Sanitary Board for 20 years.

s/LOUISE W. FROST, *Lidgerwood Monitor*, and DR. DEAN E. FLAGG, *Secretary, North Dakota V.M.A.*

Ohio

Women's Auxiliary.—The Women's Auxiliary to the Ohio State V.M.A. met at the State Association's annual meeting at the Neil House in Columbus, Feb. 4-6, 1959. Approximately 150 women registered for the luncheon.

The officers of the Auxiliary for 1959 are as follows: Mrs. Howard T. Deacon, Eaton, president; Mrs. Harry B. Roberts, Cleveland, vice-president; Mrs. Robert J. Custis, New Vienna, secretary; and Mrs. P. B. Johnston, Cincinnati, treasurer.

s/MRS. R. J. CUSTIS, *Secretary.*

Officers of the Women's Auxiliary to the Ohio State V.M.A. Left to right—Mrs. H. G. Roberts, vice-president; Mrs. H. T. Deacon, president; Mrs. C. W. Cromley, past-president; Mrs. P. B. Johnston, treasurer; Mrs. R. J. Custis, secretary.

Dr. Lonnie H. Weaver (center), director of the city health department's Rabies Control Center receives a gold plaque for his efforts in reducing the number of rabies incidents in San Antonio, from Dr. Mason L. Matthews (left), president of the Bexar County V.M.A. Dr. J. C. Ellington (M.D.), director of public health, is at right.

Pennsylvania

Two Veterinarians Receive Certificates of Merit.—Certificates of merit were presented recently to two veterinarians in the U.S.D.A.'s Animal Disease Eradication Division in Harrisburg. Recipients of the awards were Drs. Edward D. Leiby (COL '21), Harrisburg, and Harry S. Smith (ONT '26), Montrose.

Dr. Leiby, veterinarian in charge, was cited for sustained outstanding performance of his duties and for his manner of carrying out the federal government's part in Pennsylvania's successful campaign for brucellosis certification and other disease eradication activities.

Dr. Smith was recognized for his outstanding contribution in organizing and directing their activities in the field.

Texas

Dr. L. H. Weaver Leads Rabies Control in San Antonio.—Less than a decade ago, San Antonio was known as the rabies capitol of the world, averaging 85 cases per year.

Recently, the state commissioner of health, Dr. Henry A. Holle (M.D.), reported that there had been no rabies in dogs and cats in the city for more than 20 months. He attributed this outstanding record to the efforts of the city's rabies control chief, Dr. Lonnie H. Weaver (TEX '39), his staff, and to the people of San Antonio.

San Antonio's goal is to license, in 1959, 40,000 of the city's approximately 60,000 dogs. Dr. Weaver feels that this would make the city relatively safe from an epidemic of rabies. A total of 35,000 licenses were issued in San Antonio last year.

s/W. A. LAWRENCE, *PR Representative, Bexar County V.M.A.*

STATE BOARD EXAMINATIONS

RHODE ISLAND—July 14-15, 1959, Veterans' Memorial Building, Room 505, Providence. All applicants must procure applications for the examination. T. J. Grennan, Jr., Secretary, State Board of Veterinarians, 505 Veterans' Memorial Building, Providence, R. I.

DEATHS

Star indicates member of AVMA

★**Iva Dunn** (MCK '20), 66, Atkins, Iowa, died May 11, 1959, following a long illness.

Dr. Dunn had been a prominent practitioner at Atkins for 37 years and a member of the AVMA for 35 continuous years. He was a former president of, and had long been an active worker in, the Eastern Iowa Veterinary Association, Inc.

Edward A. Justen, 73, veterinarian in the Hopkins and Minneapolis area for 50 years, died in his sleep on March 16, 1959, due to coronary thrombosis.

Louis H. Murty (GR '17), 68, Elizabethtown, Ky., died at his home April 6, 1959.

Dr. Murty had been a livestock inspector for the BAI, attached to the Lexington office.

William Albert Mesier (ONT '05), 84, Millerstown, Pa., died in a hospital in Harrisburg on April 29, 1959.

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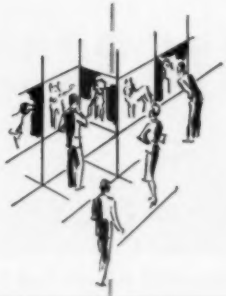

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In canine tracheobronchitis, FURADANTIN given for 5 days stopped the coughing in 95% of 75 cases; in some dogs, complete symptomatic relief was gained in 48 hours.[3]

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REFERENCES: 1. Mosier, J. E., and Coles, E. H.: Vet. Med. 53:649 (Dec.) 1958. 2. Belloff, G. B.: Calif. Vet. 9:27 (Sept.-Oct.) 1956. 3. Mosier, J. E.: Vet. Med. 52:445 (Sept.) 1957.

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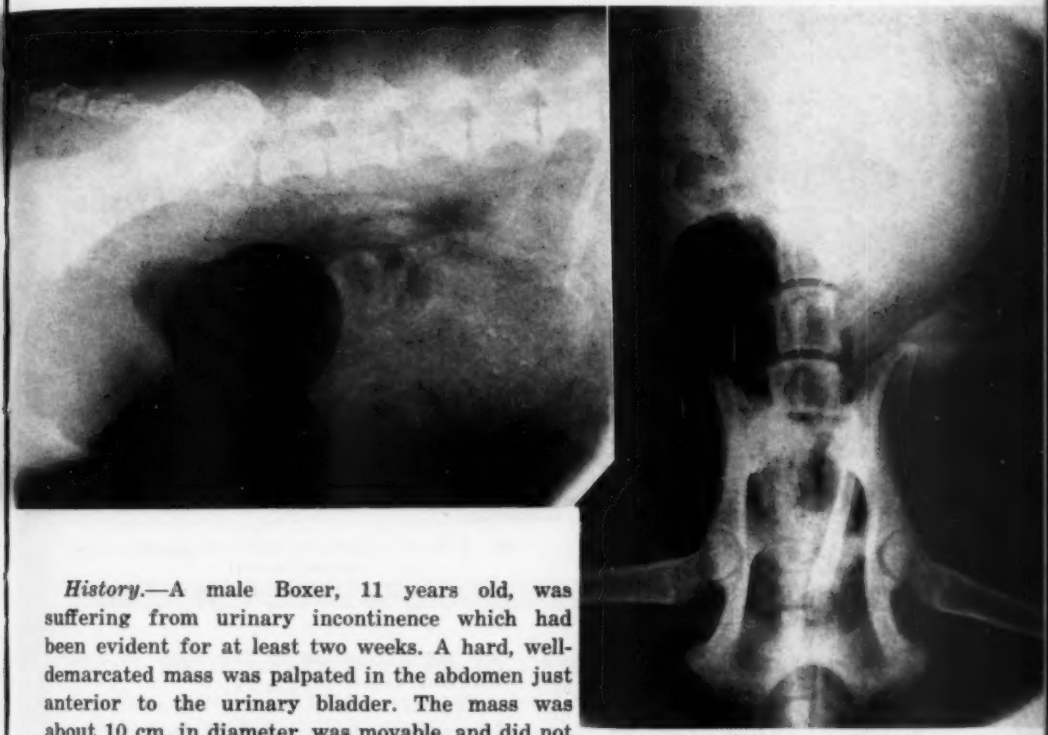
What Is Your Diagnosis?

Because of the interest in veterinary radiology, a case history and radiographs depicting a diagnostic problem are usually published in each issue.

Make your diagnosis from the picture below—then turn the page ▶



History.—A male Boxer, 11 years old, was suffering from urinary incontinence which had been evident for at least two weeks. A hard, well-demarcated mass was palpated in the abdomen just anterior to the urinary bladder. The mass was about 10 cm. in diameter, was movable, and did not seem to be connected to the urinary bladder.

The dog had been in good health except for a hypertrophied prostate and a perineal hernia which were treated eight months previously by castration and herniorrhaphy. At that time a thin-walled cyst, 4 cm. in diameter and containing 40 cc. of serosanguineous fluid, was removed from the hernial sac.

Lateral and ventrodorsal cystograms were taken to assist in determining the nature of the present mass (fig. 1).

Fig. 1—Lateral recumbent cystogram (left) and ventrodorsal cystogram (above) of the Boxer.

This case was submitted by Dr. Samuel Pollock, South Orange Animal Hospital, South Orange, N. J.

Here Is the Diagnosis

(Continued from preceding page)

Diagnosis.—A radiopaque mass in the abdominal cavity. The margins of both the urinary bladder and the mass were well defined and, since the mass was movable, it was concluded that it was not connected to the urinary bladder.

Comment.—On laparotomy, a hard cystic mass 11 by 9 by 9 cm. (fig. 2), attached only to the omentum, was removed. The cavity contained 800 cc. of serosanguineous fluid. The wall of the cyst was hard, fibrous, and somewhat ossified. Microscopically, the fibrous tissue was compact and dense, relatively acellular, and the fibers were arranged in concentric layers. Located within the fibrous tissues were bony plaques some of which contained bone marrow (fig. 3). There was an absence of inflammatory cells.

The cyst, except for the calcification and ossification, was apparently similar to the one removed at the operation eight months previously. Calcification and ossification are not uncommon in the walls of long-standing cysts.

Hemocysts in the male dog arise from the kidney, prostate gland, spleen, and from areas of connective tissue that have been subjected to trauma. Hemorrhage is usually the exciting factor. It is highly probable that this hemocyst resulted from trauma during the presence of the perineal hernia.

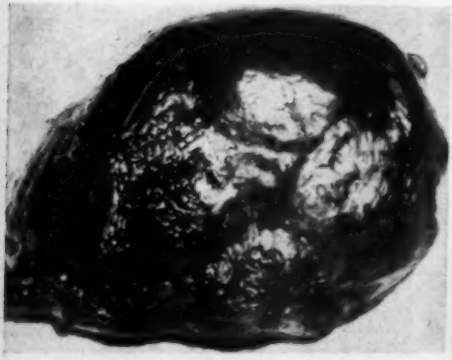


Fig. 2—Calcified hemocyst removed from abdomen of the Boxer.

Fig. 3—Cross section of hemocyst showing bony plaques (arrows).

Our readers are invited to submit histories, radiographs, and diagnoses of interesting cases which are suitable for publication.

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1. Mires, M. H., and Chadwick, R. H.: Vet. News 10:3 (Jan.-Feb.) 1947. 2. Mires, M. H.: J. Am. Vet. M. Ass. 117:49 (July) 1950.

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Ketosis (acetonemia)	Single 100- to 200-mg. injection.*
Shock ("downer" cow) syndrome	Single 200-mg. injection as supportive therapy.
DOGS	
Dermatoses	5 mg./10 pounds body weight, total single dose not to exceed 20 mg. For sustained therapy, repeat once or twice a week as indicated.
Inflammatory joint conditions	5 mg./10 pounds body weight, total single dose not to exceed 20 mg. Supportive oral therapy not necessary.

*This initial injection may be reduced to 50 to 100 mg. intramuscularly if simultaneous administration of intravenous glucose is given, thus permitting more economical glucocorticoid therapy. If necessary, either regimen may be augmented by an additional injection of 50 to 100 mg. Ultracortenol after 24 to 48 hours. IMPORTANT: Milk from treated cows should be discarded or used for purposes other than human consumption for at least 24 hours after the last treatment.

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References: 1. Vigue, R. F.: J.A.V.M.A. 133:326 (Sept. 15) 1958. 2. Shaw, J. C.: Personal communication. 3. Pollock, S.: Vet. Med. 54:97 (Feb.) 1959. 4. Rabin, P. H.: Personal communication. 5. Hoffer, S. H.: Personal communication. 6. Weir, H. T., and Hazelrig, J. W.: Personal communication. 7. Beck, J. W.: Personal communication. 8. Bull, W. S.: Personal communication. 9. Fessenden, P. E.: Personal communication. 10. Lohmeyer, C.: Personal communication.

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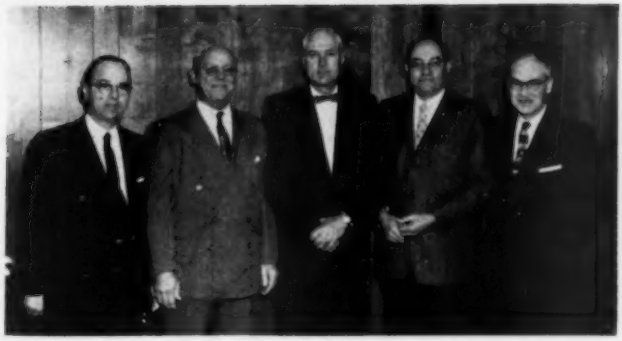

AVMA Judicial Council. Left to right: Drs. R. C. Snyder, W. G. Brock, W. O. Kester, C. W. Bower, and F. R. Booth.

Meeting of AVMA Judicial Council

Meeting in Chicago on February 23, 1959, the AVMA Judicial Council continued its study of the problem of veterinary ownership of biological companies, and adopted a formal statement of opinion which will be submitted to the AVMA House of Delegates during the August meeting in Kansas City. This statement reflects the opinion of the Council only, and will not become the official AVMA viewpoint unless it is accepted without modification by the House.

The Council considered and acted on a number of grievances involving advertising and AVMA members, and made appropriate recommendations. It was agreed that several other complaints were properly within the jurisdiction of the constituent associations.

The Council studied the problem of life membership, and agreed that the present provisions of the AVMA Constitution and Bylaws, which provide for exemption of further payment of dues by those members who have completed 35 years of continuous membership, adequately provides recognition and relief from financial problems for those who have retired or become semi-active.

The Council reviewed proposed amendments to the Constitution and Bylaws (one pertaining to duties of the treasurer; the other, redefining convention zones) and found no objection to them.

A discussion of considerable length dealt with the revision of "Principles of Veterinary Medical Ethics." It was agreed that the study would be continued at the next meeting of the Council, when a draft of the revision is to be available.

The Council studied a proposed amendment to the Bylaws which would require an active member to retain membership in a constituent association in order to remain an active member in good standing in the AVMA. The Council agreed that this proposal should be presented to the House of Delegates.

Spanish Conversation

Since the AVMA Convention in Kansas City will be held jointly with the Pan American Congress, with approximately 400 Spanish-speaking veterinarians and visitors, the JOURNAL is carrying simplified Spanish phrases.

Although conscientious study of this lesson will not transform you into a fluent linguist, you may find to your satisfaction that you can at least discuss the weather with our Latin American neighbors in Kansas City.

Que tiempo hace hoy? *Kay tee-EM-po AH-thay oy?*	How is the weather today?
Que dia hormoso! *Kay DEE-a or-MO-so.*	What a fine day!
Hace frio. *AH-thay FREE-o.*	It is cold.
Hay mucha humedad. *Eye-MOO-cha oo-may-DATH.*	It is humid.
Le gusta el calor? *Le GOOS-ta el ka-LOR?*	Do you like it warm?
Prefiere Usted el tiempo frio? *Pray-fee-YAIR-ray oos-TETH el tee-EM-po FREE-o?*	Do you prefer the cold?
En agosto hace mucho calor en los Estados Unidos. *Aynn a-GO-sto AH-thay MOO-cho ka-LOR ayn los ay-STA-dos oo-NEE-dos.*	In August it is very warm in the United States.

COMING MEETINGS

Notices of coming meetings must be received 30 days before date of publication.

Nebraska Veterinary Medical Association. Summer meeting. Pawnee Hotel, North Platte, Neb., July 10-12, 1959. H. E. Hedlund, Wahoo, Neb., program chairman.

Kentucky Veterinary Medical Association. Forty-eighth annual convention. Sheraton-Seelbach Hotel, Louisville, Ky., July 13-14, 1959. L. S. Shirrell, 545 East Main St., Frankfort, secretary.

Iowa State College. Annual conference. Iowa State College, Ames, July 14-15, 1959. C. D. Lee, chairman.

Alabama Polytechnic Institute. Fifty-second annual conference. School of Veterinary Medicine, Alabama Polytechnic Institute, Auburn, July 19-22, 1959. J. E. Greene, dean.

Virginia Veterinary Medical Association. Summer Convention. Hotel Chamberlin, Old Point Comfort, Fort Monroe, Va., July 19-21, 1959. G. B. Estes, 1308 East Franklin St., Richmond, Va., secretary.

Canadian Veterinary Medical Association. Annual convention. Ontario Veterinary College, Guelph, Ont., July 20-22, 1959. H. J. Neely, Ontario Veterinary College, Guelph, Ont., publicity committee chairman.

Arkansas Veterinary Practitioner's Association. Annual meeting. Mather Lodge, Petit Jean State Park, Morrilton, Ark., July 26-28, 1959. W. H. Babbitt, 204 W. 13th St., North Little Rock, Ark., secretary-treasurer.

Mississippi State Veterinary Medical Association. Annual meeting. Buena Vista Hotel, Biloxi, Miss., July 26-29, 1959. J. W. Branson, P.O. Box 4223, Fondren Station, Jackson 6, secretary-treasurer.

American Association of Veterinary Bacteriologists. Annual meeting. Division of Veterinary Medicine, Iowa State College, Ames, Iowa, Aug. 22, 1959. C. H. Cunningham, Michigan State University, College of Veterinary Medicine, East Lansing, secretary.

Ninety-Sixth Annual Meeting, American Veterinary Medical Association, and Third Pan American Congress of Veterinary Medicine. Joint meeting. Kansas City, Mo., Aug. 23-27, 1959. H. E. Kingman, Jr., executive-secretary, AVMA, 600 S. Michigan Ave., Chicago 5, Ill. B. D. Blood, secretary-general, Directing Council, Pan American Congress of Veterinary Medicine, P.O. Box 99, Azul, F.C.N.G.R., Argentina, S.A.

Colorado Veterinary Medical Association. Annuel convention. Shirley Savoy Hotel, Denver, Colo., Sept. 3-4, 1959. Gail H. Gilbert, 5500 Wadsworth Ave., Arvada, executive secretary.

Electron Microscope Society of America. Seventeenth annual meeting. Ohio State University, Columbus, Sept. 9-12, 1959. Sydney S. Breese, Jr., Plum Island Animal Disease Laboratory, Greenport, L.I., N.Y., program chairman.

New York State Veterinary Medical Society. Annual meeting. Grossinger's, Grossinger, N. Y., Sept. 14-16, 1959. F. H. Fox, chairman.

New Mexico Veterinary Medical Association. Annual meeting, Western Skies Hotel, Albuquerque, N. M., Sept. 21-22, 1959. E. R. Leslie, 907 Alamosa, Carlsbad, N.M., secretary.

Animal Care Panel. Annual Convention. Sheraton Park Hotel, Washington, D.C., Oct. 29-31, 1959. William I. Gay, Animal Care Panel, 2101 Constitution Ave., Washington 25, D.C., publicity committee chairman.

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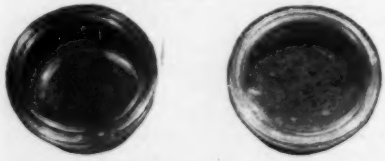

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Regularly Scheduled Meetings

ALABAMA—Central Alabama Veterinary Medical Association, the first Thursday of each month. James L. Chambers, 4307 Normanbridge Rd., Montgomery, Ala., secretary-treasurer.

Jefferson County Veterinary Medical Association, the second Thursday of each month. Dan P. Griswold, Jr., 714 S. 39th St., Birmingham, secretary.

Mobile-Baldwin Veterinary Medical Association, the third Tuesday of each month. Cecil S. Yarbrough, 4121 U.S. 90 West, Mobile, Ala., secretary.

North Alabama Veterinary Medical Association, the second Thursday of November, January, March, May, July, and September, in Decatur, Ala. Ray A. Ashwander, P.O. Box 1767, Decatur, Ala., secretary.

Northeast Alabama Veterinary Medical Association, the second Tuesday of every other month. Leonard J. Hill, P.O. Box 761, Gadsden, Ala., secretary-treasurer.

ALASKA—Anchorage Group of the Alaska V. M. A., the last Wednesday of each month at Fort Richardson Officers' Club or Thompson's Restaurant 6th and I Streets, Anchorage, Alas. Lt. Colonel E. H. Akins, Surgeon's Office, U.S.A.R.A.L., Fort Richardson, Alas., secretary to the Alaska V. M. A.

ARIZONA—Central Arizona Veterinary Medical Association, the second Tuesday of each month. J. W. Langley, Jr., P.O. Box 5013, Phoenix, Ariz., secretary.

Southern Arizona Veterinary Medical Association, the third Wednesday of each month at 7:30 p.m. Gwyn Chapin, 2215 E. Calle Vista, Tuscon, Ariz., secretary.

ARKANSAS—Pulaski County Veterinary Medical Society, the second Tuesday of each month. Harvie R. Ellis, 54 Belmont Drive, Little Rock, Ark., secretary-treasurer.

CALIFORNIA—Alameda-Contra Costa Veterinary Medical Association, the fourth Wednesday of Jan., March, May, June, Aug., Oct., and Nov. John S. Blackard, 420 Appian Way, Richmond, Calif., secretary.

Bay Counties Veterinary Medical Association, the second Tuesday of February, April, July, September, and December. Herb Warren, 3004 16th St., San Francisco, Calif., executive secretary.

Central California Veterinary Medical Association, the fourth Tuesday of each month. Paul S. Chaffee, 2333 McKinley Ave., Fresno, Calif., secretary.

Humboldt-Del Norte Counties Veterinary Medical Association, the second Tuesday of January, May, September, and November. Dr. C. A. Lamb, 2835 Dolbeer St., Eureka, Calif., secretary.

Kern County Veterinary Medical Association, the first Thursday evening of the month. James L. Frederickson, 17 Nile St., Bakersfield, Calif., secretary-treasurer.

Mid-Coast Veterinary Medical Association, the first Thursday of each month. William P. Matulich, P. O. Box 121, San Luis Obispo, Calif., secretary-treasurer.

Monterey Bay Area Veterinary Medical Association, the third Wednesday of each month. V. Todorovic, 47 Mann Ave., Watsonville, Calif., secretary.

Northern California Association of Veterinarians, the second Tuesday of the month. Andrew F. Giambroni, P.O. Box 782, Red Bluff, Calif., secretary.

North San Joaquin Valley Veterinary Medical Association, the fourth Wednesday of each month at the Hotel Covell, in Modesto, Calif. T. J. Carleton, 325 W. Lockeford St., Lodi, Calif., secretary-treasurer.

Orange Belt Veterinary Medical Association, the second Monday of each month. R. Y. Foos, P.O. Box 955, Victorville, Calif., secretary-treasurer.

Orange County Veterinary Medical Association, the third Thursday of each month. H. M. Stanton, 1122 S.E. U.S. Highway 101, Tustin, Calif., secretary.

Peninsula Veterinary Medical Association, the third Monday of the month. R. M. Grandfield, 416 Stephens Rd., San Mateo, Calif., secretary-treasurer.

Redwood Empire Veterinary Medical Association, the third Thursday of the month. R. R. Rediske, 833 Vallejo Ave., Novato, Calif., secretary-treasurer.

Sacramento Valley Veterinary Medical Association, the second Wednesday of the month. E. C. Story, 4819 "V" St., Sacramento 17, Calif., secretary-treasurer.

San Diego County Veterinary Medical Association, the fourth Tuesday of the month. Robert F. Burns, 7572 North Ave., Lemon Grove, Calif., secretary-treasurer.

(*Continued on adv. p.* 40)

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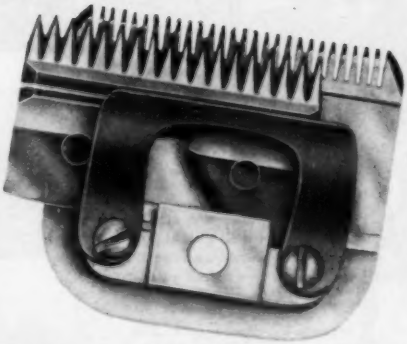

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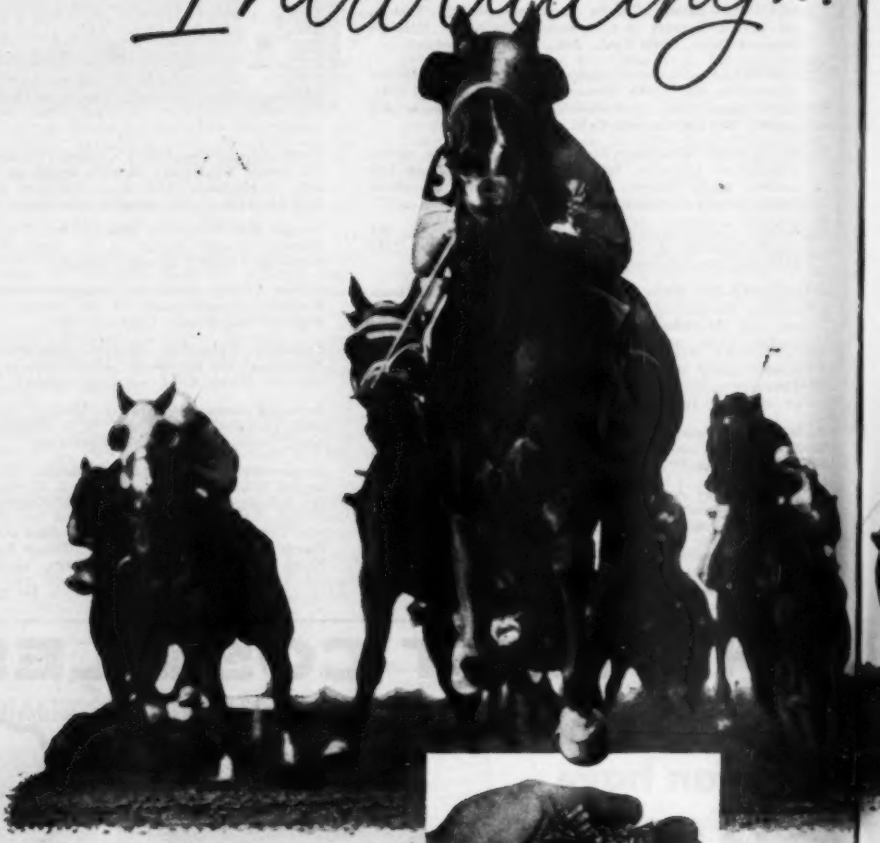

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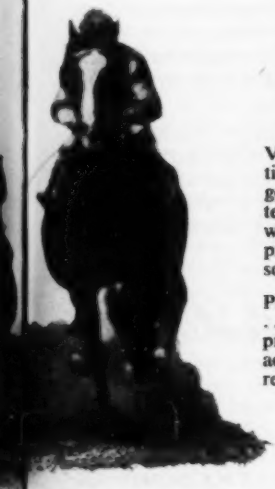

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Vitamin B_1	.40 mg. per oz. 640 mg. per lb.
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Vitamin B_6	.5 mg. per oz. 80 mg. per lb.
Vitamin B_{12}	17.5 mcg. per oz. .28 mg. per lb.
Vitamin E	13.8 Int. units per oz. 222 Int. units per lb.
Niacinamide	100 mg. per oz. 1600 mg. per lb.
Calcium pantothenate	.25 mg. per oz. .400 mg. per lb.
Iodine	.779 mg. per oz. .00275 per cent
Iron	12.4 mg. per oz. .044 per cent
Cobalt	12 mg. per oz. .00044 per cent
Copper	5.92 mg. per oz. .0209 per cent
Magnesium	11.8 mg. per oz. .0418 per cent
Manganese	1.87 mg. per oz. .0066 per cent
Calcium	1814 mg. per oz. 6.4 per cent
Phosphorus	1417 mg. per oz. 5.0 per cent
Salt	567 mg. per oz. 2.0 per cent

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1863 The First 100 Years 1963

Here begins a series of brief articles, approximately 100 in number, which will appear in succeeding issues of the JOURNAL from now until July, 1963. Their purpose is to serve as a prelude to, and later, be incorporated in, a history of the American Veterinary Medical Association.

Author of the series and of the to-be-completed historical volume is J. F. Smithcors, M.S., D.V.M., Ph.D., associate professor of anatomy, College of Veterinary Medicine, Michigan State University, whose writings on veterinary medical historical matters are well known. He was commissioned in 1958 by the AVMA Executive Board to undertake the task and is devoting a considerable portion of a sabbatical leave to the project. His book, "Evolution of the Veterinary Art," published in 1957, demonstrated not only Dr. Smithcors' qualifications for writing a history of the AVMA, but his dedication and painstaking thoroughness in searching out all pertinent facts and events. His lucid lectures on veterinary medical history at Michigan State were notable in sparking a real interest in the subject among students and faculty members as well.

This achievement answers the question raised by the late Dr. L. A. Merillat several years ago: "Who cares about history?" Yet, without knowledge of whence we came, how can we know and understand just where we are today and where we may be headed tomorrow?

Surely, an authoritative narrative of events significant to the veterinary medical profession and the Association should be of great interest and value in understanding our present position and helping to chart our future course.

J. H. Vandenbergh

The Astor House in New York City, site of the organization meeting of the U.S.V.M.A. in 1863.

History of the AVMA

As the American Veterinary Medical Association approaches its centennial year, it seems fitting that we pause for a backward look to review the accomplishments of the past, and to do honor to those whose efforts have made this celebration an imminent reality. Moreover, some knowledge of what has kept us "ticking" the first hundred years may be of some value during the second century of our existence.

1863

Founded in 1863 as the United States Veterinary Medical Association, this organization is one of the oldest and the largest of its kind. It, therefore, must have had some special merits to have warranted the continuous support of veterinarians in the United States and Canada for these many years. This is particularly true of the early years, when every circumstance pointed to the probability of failure. It was founded in the midst of great national peril, at a time when this country had but few educated veterinarians, and had neither professional journals, practice acts, nor a system of veterinary education to sustain it.

It was a small band of dedicated men, about 40 in number, who met in New York City on June 9-10, 1863, to give substance to an association, at first little more than local in character, that a century later was to be truly representative of the veterinary profession of two great countries. These men had responded to a petition, promoted in large part by the American Veterinary Association (of Philadelphia), which stated:

> WHEREAS, Veterinary Science in this country has been kept in comparative obscurity in consequence of its having been confined mainly to the hands of men uneducated in the anatomical and pathological relations of the various diseases to which our domestic animals are subject, as well also as to the therapeutic action of the remedies used in combating disease. This deplorable condition of the veterinary profession has been the means of excluding the qualified practitioner from the army in the United States. The losses to the national government in consequence from the purchase of large numbers of horses unfit for the duties required of them, having amounted to millions of dollars, therefore,
>
> RESOLVED, that the friends of veterinary science favorable to forming a National Veterinary Association for the advancement and diffusion of veterinary knowledge meet in convention in the city of New York on Tuesday, June 9th, 1863.
>
> RESOLVED, that veterinary surgeons in all parts of the United States, and all persons favorable to such an organization be invited to attend the convention.

It was a busy two-day meeting in which representatives saw the drafting and adoption of a Constitution and Bylaws, selection of a name, and election of a slate of officers—and yet had time to hear papers read on "The Origin and Importance of Veterinary Science," and "Veterinary Education."

The choice of a name for the fledgling group presented some problems. Apparently because "American" had been pre-empted by the Philadelphia Association, some favored "National Veterinary Association;" others favored "National Society for the Advancement of Veterinary Science." Final agreement on "United States Veterinary Medical Association" appears to have been unanimous.

The change in 1898 to the present name was a logical recognition of the fact that the Association had extended its scope beyond a boundary which had never been, in fact, a barrier to understanding and cooperation between the veterinarians of Canada and the United States.

Elected as the first slate of officers were: president, Josiah H. Stickney of Boston, a London graduate; secretary, Alexandre Liautard of New York, a graduate of Alfort; and treasurer, A.S. Copeman of Utica, N.Y., a self-educated practitioner, earlier associated with the Boston Veterinary Institute.

Vice-presidents included: George W. Bowler of Ohio, a London graduate; E. F. Ripley of Maine, a Boston graduate; and R. H. Curtis of New York, a London graduate. Also elected were: Robert Jennings of New Jersey, Robert McClure of Pennsylvania, William Saunders of Massachusetts, and William A. Wisdom of Delaware, all nongraduates but proficient and prominent practitioners.

The seal of the Association, adopted at the meeting, figured a centaur—symbolic of the antiquity of veterinary medicine—with the motto: *Non Nobis Solum*—"Not for us alone." The new Association grew slowly, and for many years the charter members were its backbone and lifeblood. One or more of the major posts was held by an original member until 1885.

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San Fernando Valley Chapter SCVMA, the second Tuesday of each month at 7:30 p.m., Hody's Restaurant, North Hollywood, Calif. Barbara G. Shirley, Canoga Park, Calif., secretary-treasurer.

San Fernando Valley Veterinary Medical Association, the second Friday of each month at the Casa Escobar Restaurant in Studio City. John Chudacoff, 7912 Sepulveda Blvd., Van Nuys, Calif., secretary.

Santa Barbara-Ventura Counties Veterinary Medical Association, every three months, no set date. Gerald M. Clark, 5415 8th St., Carpinteria, Calif., secretary-treasurer.

Santa Clara Valley Veterinary Medical Association, the last Tuesday of the month. Robert L. King, 1269 Grant St., Santa Clara, Calif., secretary-treasurer.

Southern California Veterinary Medical Association, the third Wednesday of the month. Mr. Don Mahan, 1919 Wilshire Blvd., Los Angeles 57, Calif., executive secretary.

COLORADO—Denver Area Veterinary Medical Society, the fourth Tuesday of every month. Gene M. Bierhaus, 2896 S. Federal Blvd., Englewood, Colo., secretary-treasurer.

Northern Colorado Veterinary Medical Society, the first Wednesday of each month, in Fort Collins. Dr. James Voss, Veterinary Hospital, Colorado State University, Fort Collins, Colo., secretary.

DELAWARE—New Castle County Veterinary Medical Association, the first Tuesday of each month at 9:00 p.m. in the Hotel Rodney, Wilmington, Del. A. P. Mayer, Jr., R.F.D. 2, Newark, Del., secretary-treasurer.

DISTRICT OF COLUMBIA—District of Columbia Veterinary Medical Association, the second Tuesday evenings of January, March, May, and October. R. B. Gochenour, 10109 Ashwood Dr., Kensington, Md., secretary-treasurer.

FLORIDA—Big Bend Veterinary Medical Association, meets the first Sunday of each month at 5:00 p. m., at the Tallahassee Dining Room, Tallahassee. C. Paul Vickers, P.O. Box 309, Tallahassee, secretary.

Central Florida Veterinary Medical Association, the first Friday of each month at 8:00 p. m., place specified monthly. L. R. Poe, 753 W. Fairbanks Ave., Winter Park, Fla., secretary-treasurer.

Florida West Coast Veterinary Medical Association, the second Wednesday of each month at the Lighthouse Inn, St. Petersburg. Fred Jones, 3606 S. Dale Mabry, Tampa, Fla., secretary.

Hillsborough County Veterinary Medical Society, the second Monday evening of each month. For additional information as to the location of each meeting, contact: J. J. Metz, Jr., 5207 Nebraska Ave., Tampa 3, Fla., secretary.

Jacksonville Veterinary Medical Association, the first Thursday of every month. Dodson's Restaurant, Stephen C. Hite, 5807 105th St., Jacksonville 10, Fla., secretary.

Northwest Florida Veterinary Medical Society, third Wednesday of each month, time and place specified monthly. John Webb, P.O. Box 183, Cantonment, Fla., secretary-treasurer.

Palm Beach Veterinary Society, the last Thursday evening of each month. McArthur Dairy Building, Four Points, W. Palm Beach. B. W. Bigger, 2833 S. 4th St., Fort Pierce, Fla., secretary.

Ridge Veterinary Medical Association, the fourth Thursday of each month in Bartow, Fla. John S. Haromy, Route #1, Box 107-A, Lake Wales, Fla., secretary.

South Florida Veterinary Society, the third Wednesday of each month. Time and place specified monthly. Joe B. O'Quinn, 1690 E. 4th, Hialeah, Fla., secretary.

Suwannee Valley Veterinary Association, the fourth Tues-

day of each month, Hotel Thomas, Gainesville. G. L. Burch, P.O. Box 405, Ocala, Fla., secretary-treasurer.

Volusia County Veterinary Medical Association, the fourth Thursday of each month. Robert E. Cope, 127 E. Mason, Daytona Beach, Fla., secretary.

GEORGIA—Atlanta Veterinary Medical Society, the third Thursday of each month at the Elk's Home, 726 Peachtree St., Atlanta. Clare L. Bromley, 634 Northside Dr., N.W., Atlanta, Ga., secretary.

Georgia-Carolina Veterinary Medical Association, the second Monday of each month at 8:00 p.m., at the Town Tavern, Augusta, Ga. J. A. Schmitz, 1711 Gwinnett St., Augusta, Ga., secretary.

North Georgia Veterinary Medical Association, quarterly, no set date, the spring meeting at the Veterinary School, Athens, Ga. S. J. Shirley, Commerce, Ga., secretary.

Southeast Georgia Veterinary Medical Association, quarterly, date and meeting place varies. Hugh F. Arundel, P.O. Box 153, Statesboro, Ga., secretary.

South Georgia Veterinary Medical Association, the second Sunday of each quarter at 3:30 p.m., at the Radium Springs Hotel, Albany, Ga. M. W. Hale, Route 2, Tifton, Ga., secretary.

ILLINOIS—Central Illinois Veterinary Medical Association, June 9, Sept. 9, and Dec. 10, 1959. Paul B. Doby, 4 Owens Lane, Springfield, secretary.

Chicago Veterinary Medical Association, the second Tuesday of each month, Charles H. Armstrong, 1021 Davis St., Evanston, secretary.

INDIANA—Calumet Area Veterinary Medical Association, the first Thursday of each month. Bruce Sharp, Box 166, Hobart, Ind., secretary-treasurer.

Central Indiana Veterinary Medical Association, the second Wednesday of each month. P. T. Parker, 224 N. Mill St., Plainfield, Ind., secretary-treasurer.

Michiana Veterinary Medical Association, the second Thursday of every month except July and December, at the Hotel LaSalle, South Bend, Ind. Stanton Williamson, 217 W. Chippewa St., South Bend, Ind., secretary.

Tenth District Veterinary Medical Association, the third Thursday of each month. J. S. Baker, P.O. Box 52, Pendleton, Ind., secretary.

IOWA—Cedar Valley Veterinary Medical Association, the second Monday of each month, except January, July, August, and October in Black's Tea Room, Waterloo, Iowa. A. J. Cotten, P.O. Box 183, Grundy Center, secretary.

Central Iowa Veterinary Medical Association, the third Monday of each month except June, July, and August at 6:30 p.m., Breeze House, Ankeny, Iowa. S. L. Hendricks, secretary-treasurer .

Central Iowa Veterinary Medical Association, the third Monday of each month, except June, July, and August, at 6:30 p.m., Breeze House, Ankeny, Iowa. John Herrick, 202 S. Hazel Ave., Ames, secretary.

Coon Valley Veterinary Medical Association, the second Wednesday of each month, September through May, at 7:30 p.m., Cobblestone Inn, Storm Lake, Iowa. Robert McCutcheon, Holstein, secretary.

East Central Iowa Veterinary Medical Society, the Second Thursday of each month at 6:30 p.m., usually in Cedar Rapids, Iowa. T. F. Bartley, P.O. Box 454, Cedar Rapids, secretary.

Fayette County Veterinary Medical Association, the third Thursday of each month at 6:30 p.m. in West Union, Iowa. H. J. Morgan, West Union, secretary.

Lakes Veterinary Association, the first Tuesday of each month, September through May, at 6:30 p.m., at the Gardson Hotel, Estherville, Iowa. Barry Barnes, P.O. Box 162, Milford, secretary.

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North Central Iowa Veterinary Medical Association, the third Thursday of April, at the Warden Hotel, Fort Dodge, Iowa. H. Engelbrecht, P. O. Box 797, Fort Dodge, secretary.

Northeast Iowa-Southern Minnesota Veterinary Association, the first Tuesday of February, May, August, and November at the Wisneslick Hotel, Decorah, Iowa, 6:30 p.m. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

Northwest Iowa Veterinary Medical Association, the second Tuesday of February, May, September, and December, at the Community Bldg., Sheldon. W. Ver Meer Hull, secretary.

Southeastern Iowa Veterinary Association, the first Tuesday of each month at Mt. Pleasant, Iowa. Warren Kilpatrick, Mediapolis, secretary.

Southwestern Iowa Veterinary Medical Association, the first Tuesday of April and October, Hotel Chieftain, Council Bluffs, Iowa. J. P. Stream, 202 S. Stone St., Creston, secretary.

Upper Iowa Veterinary Medical Association, the third Tuesday of each month at 7:00 p.m., at All Vets Center, Clear Lake, Iowa. W. A. Danker, Dows, Iowa, secretary.

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KENTUCKY—Central Kentucky Veterinary Medical Association, the first Wednesday of each month. R. H. Folsom, P.O. Box 323, Danville, Ky., secretary.

Jefferson County Veterinary Society of Kentucky, Inc., the first Wednesday of each month in Louisville or within a radius of 50 miles, except January, May, and July. G. R. Comfort, 2102 Reynolds Lane, Louisville, Ky., secretary-treasurer.

LOUISIANA—New Orleans Veterinary Medical Association, the third Thursday of every month at the Monteleone Hotel, New Orleans, at 8:30 p. m. Ronald C. Francis, 6421 Chef Menteur Highway, New Orleans, La., secretary-treasurer.

MARYLAND—Baltimore City Veterinary Medical Association, the second Thursday of each month, September through May (except December), at 9:00 p.m., at the Park Plaza Hotel, Charles and Madison St., Baltimore, Md. Leonard D. Krinsky, 6111 Hartford Rd., Baltimore, Md., secretary.

MICHIGAN—Central Michigan Veterinary Medical Association, the first Wednesday of every month at 7 p.m. Jerry Fries, 2070 E. Main St., Owosso, Mich., secretary.

Mid-State Veterinary Medical Association, the fourth Thursday of each month with the exception of November and December. Robert W. Acton, 4110 Spring Rd., Jackson, Mich.

Saginaw Valley Veterinary Medical Association, the last Wednesday of each month. Alvin R. Conquest, P.O. Box 514, Grand Blanc, Mich., secretary.

Southeastern Michigan Veterinary Medical Association, the fourth Wednesday of every month, September through May. Louis J. Rossoni, 24531 Princeton Ave., Dearborn 8, Mich., secretary.

MISSOURI—Greater St. Louis Veterinary Medical Association, the first Friday of each month (except July and August), at the Coronado Hotel, Lindell Blvd. and Spring Ave., St. Louis, Mo., at 8 p.m. Edwin E. Epstein, 4877 Natural Bridge Ave., St. Louis 15, Mo., secretary.

Kansas City Veterinary Medical Association and Kansas City Small Animal Hospital Association, the third Thursday of each month at the Hotel President, Kansas City, Mo. Robert E. Guilfoil, 18 N. 2nd St., Kansas City 18, Kan., secretary.

NEVADA—Western Nevada Veterinary Society, the first Tuesday of each month. Paul S. Silva, 1170 Airport Road, Reno, Nev., secretary.

NEW JERSEY—Central New Jersey Veterinary Medical Association, the second Thursday of November, January, March, and May at Old Hights Inn, Hightstown, N. J. David C. Tudor, R.D. 1, Box 284A, Cranbury, N. J., secretary.

Metropolitan New Jersey Veterinary Medical Association, the third Wednesday evening of each month from October through April, except December, at the Irvington House, 925 Springfield Ave., Irvington, N.J. Bernard M. Weiner, 787 Clinton Ave., Newark, N.J., secretary.

Northern New Jersey Veterinary Association, the fourth Tuesday of each month at the Elks Club, Hackensack. James R. Tanzola, Upper Saddle River, N.J., secretary.

Northwest Jersey Veterinary Society, the third Wednesday of every odd month. G. L. Smith, P.O. Box 938, Trenton, N.J., secretary.

South New Jersey Veterinary Medical Association, the fourth Tuesday of each month at the Collmont Diner, Collingswood, N.J. Marvin Rothman, 718 Dwight Ave., Collingswood, N.J., secretary.

NEW MEXICO—Bernalillo County Veterinary Practitioners

(Continued on adv. p. 46)

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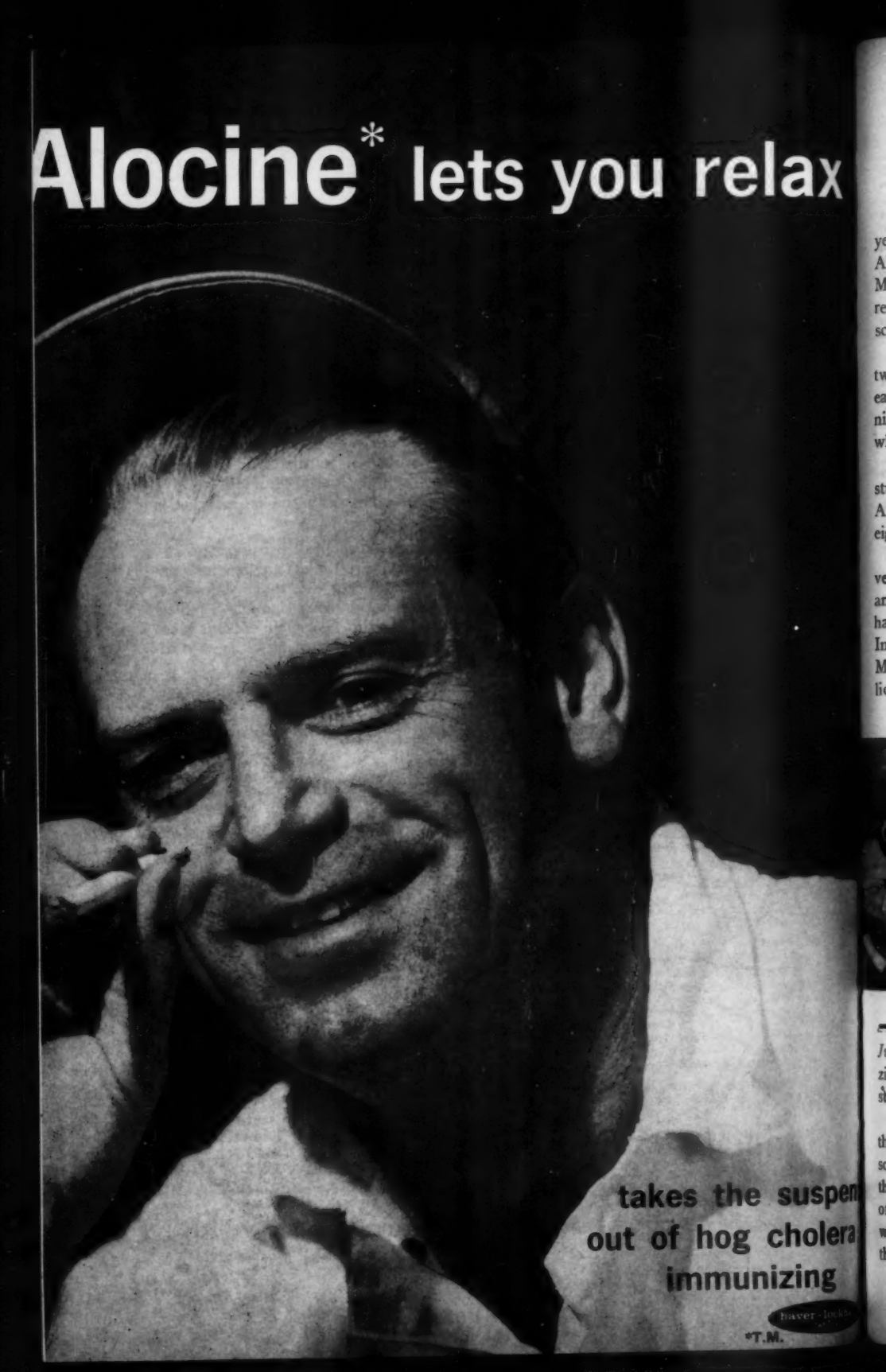
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Public Relations

Veterinary Medical Career Seekers

During January and February of this year, over 60 veterinarians requested the AVMA Speaker's Kit No. 2, "Veterinary Medicine In Our Modern World," and career booklets to be used in talks to high school students all over the country.

The average high school career day offers two sessions of 50 minutes each, enabling each junior and senior student an opportunity to hear lectures on two subjects in which he is interested.

During the January-February period, 500 students attended veterinary career sessions. Average attendance for each session was eight. An estimated 150 of these were girls.

In addition to these personal exposures to veterinary medicine, more than 5,000 boys and girls from 9th through 12th grades have written the AVMA Director of Public Information for copies of the "Veterinary Medicine As A Career" booklet. This publication was offered in the February issue of *Junior Scholastic* and *World Week*, magazines of current events for high school students.

A typical high school career day session.

Whether or not these children continue their interest and apply for entrance to a school or college of veterinary medicine, they have gained a broader understanding of all phases of the profession which they will carry through life and communicate to their parents and friends.

Science Fair Award Winners

Dr. C. H. Cunningham (center), secretary of the AVMA Council on Research, and member of the AVMA Judging Committee at the 10th National Science Fair, exchanges congratulations with Martin G. Myers (left) and Wilhelm D. Meriwether, AVMA Science Youth Award winners.

Winner of the Science Youth Award and his exhibit "Internal Parasites of Dogs" at the 10th National Science Fair, Hartford, Conn. Wilhelm D. Meriwether, 16, developed the project with his veterinarian employer in Charleston, S. Car.

Association, the third Wednesday of each month, Fez Club, Albuquerque. Donald W. Fitzgerald, 1825 Lomas Blvd., N.E., Albuquerque, N.M., secretary-treasurer.

NEW YORK—New York City, Inc., Veterinary Medical Association of, the first Wednesday of each month at the New York Academy of Sciences, 2 East 63rd St., New York City. C. E. DeCamp, 43 West 61st St., New York 23, N. Y., secretary.

Monroe County Veterinary Medical Association, the first Thursday of even-numbered months except August. Irwin Bircher, 50 University Ave., Rochester, N. Y., secretary.

NORTH CAROLINA—Central Carolina Veterinary Medical Association, the second Wednesday of each month at 7:00 p.m. in the O'Henry Hotel, Greensboro. C. G. Sims, 2450 Battleground Ave., Greensboro, N. Car., secretary.

Eastern North Caroline Veterinary Medical Association, the last Tuesday evening of each month, time and place specified monthly. Byron H. Brow, Box 453, Goldsboro, N. Car., secretary-treasurer.

Piedmont Veterinary Medical Association, the last Friday of each month. J. G. Martin, Boone, N. Car., secretary.

Twin Carolinas Veterinary Medical Association, the third Friday of each month at Orange Bowl Restaurant, Rockingham, N. Car., at 7:30 p.m. J. E. Currie, 690 N. Leak St., Southern Pines, N. Car., secretary.

Western North Carolina Veterinary Medical Association, the second Thursday of every month at 7:00 p.m. in the George Vanderbilt Hotel, Asheville, N. Car. Vida Lind, 346 State St., Marion, N. Car., secretary.

OHIO—Cincinnati Veterinary Medical Association, the third Tuesday of every month at Shuller's Wigwam, 6210 Hamilton Ave., at North Bend Road. G. C. Lewis, 451 E. Galbraith Rd., Cincinnati, Ohio, secretary-treasurer.

Columbus Academy of Veterinary Medicine, every month, September through May. E. M. Simonson, 3120 Valley View Dr., Columbus, Ohio, secretary-treasurer.

Cuyahoga County Veterinary Medical Association, the first Wednesday in September, October, December, February, March, April and May, at 9:00 p.m. at the Carter Hotel, Cleveland, Ohio. F. A. Coy, 8208 Carnegie Ave., Cleveland, Ohio, secretary.

Dayton Veterinary Medical Association, the third Tuesday of every month. O. W. Fallang, 6941 Far Hills Ave., Dayton, secretary.

(*Continued on adv. p.* 50)

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#552 With white porcelain enameled base and stainless steel top.

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broad antibacterial action . . . effective anti-inflammatory action.

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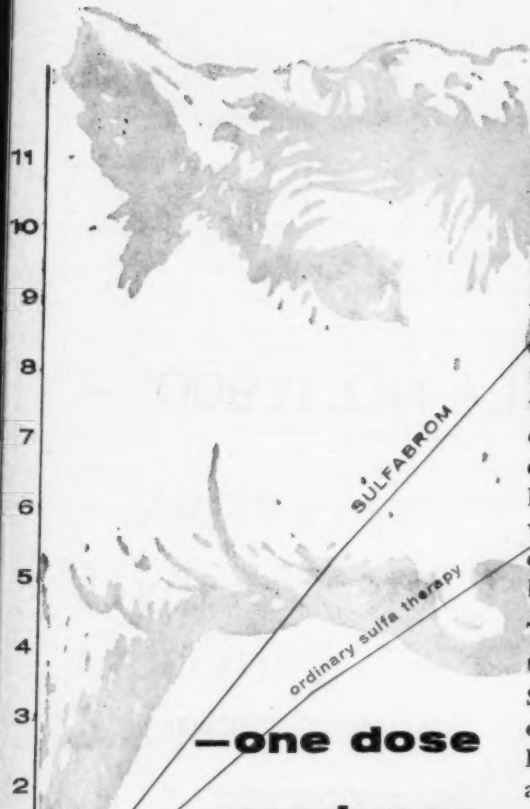

More than any other professional man, the practicing veterinarian knows that his most valuable asset is time. In any area of his practice, the success of his therapy cannot be measured by results alone; he is a busy man whose time must be used judiciously.

Well aware of this problem, Merck research workers have designed an antibacterial agent which, from its conception, was meant to satisfy the particular needs of the veterinarian. In cattle, this new drug produces effective therapeutic blood levels for at least two days, freeing the veterinarian from time-consuming return calls and minimizing stress-producing handling.

The most exciting development in sulfa therapy in 20 years

SULFABROM gives you all the benefits of sulfa efficacy and at the same time helps eliminate the necessity for frequent administration. Thus, SULFABROM is economical—your initial expenditure is sulfa-low and decreased total dosage brings cost down even lower.

SULFABROM, administered orally or

—one dose produces therapeutic blood levels lasting up to 48 hours in cattle

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BROM*

concept in sulfonamide therapy

SULFABROM is a bromine-substituted sulfamethazine developed by Merck research workers. This new antibacterial agent is the only sulfa product available *exclusively* to veterinarians.

intraperitoneally to cattle, produces effective blood levels lasting up to 48 hours—frequently long enough to eliminate *any* repetition of dosage.

SULFABROM—quickly absorbed, slowly excreted

Although SULFABROM is notable for producing effective levels in rapid time, once it has entered the blood stream its speed of action slows down considerably. SULFABROM is excreted very slowly; this accounts for its long-lasting effect. In cattle, detectable amounts may be present in the urine for as long as six days. Blood levels remain high, sometimes for as long as 53 to 60 hours. And, because it is excreted so slowly, seldom is the amount of SULFABROM passing through the urinary tract ever large enough to cause crystalluria.

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By maintaining a high sulfonamide level in the tissues, SULFABROM minimizes the emergence of resistant strains of most pathogens. SULFABROM exerts its antibacterial effect at the cellular level long enough to combat effectively both gram-negative and gram-positive organisms including those responsible for:

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SULFABROM—single-dose sulfa therapy available exclusively to veterinarians

In sum, SULFABROM represents the very latest advance in sulfa therapy. Effective against a full range of infectious diseases, economical to use by any standards, SULFABROM is your answer to the pressing problem of repeat calls and handling time in the treatment of almost any infection.

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60-90 mg. (1.0-1.5 grains)/lb., orally, as a drench—for *convenient* levels

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1. CASE REPORTS IN MERCK & CO., INC. FILES.

Killbuck Valley Veterinary Medical Association, the first Wednesday of alternate months beginning with February. C. Gale, Wooster, Ohio, secretary-treasurer.

Mahoning County Veterinary Medical Association, the Fourth Tuesday of each month, at 9:00 p.m. Youngstown Maennerchor Club, Youngstown, Ohio. Sam Segall, 2935 Glenwood Ave., Youngstown, secretary.

Miami Valley Veterinary Medical Association, the first Wednesday of December, March, June, and September. J. M. Westfall, Greenville, Ohio, secretary-treasurer.

North Central Ohio Veterinary Medical Association, the last Wednesday of each month except during the summer. R. W. McClung, Tiffin, Ohio, secretary-treasurer.

Northwestern Ohio Veterinary Medical Association, the last Wednesday of March and July. C. S. Alvanos, 1683 W. Bancroft St., Toledo, Ohio, secretary-treasurer.

Stark County Veterinary Medical Association, the second Tuesday of every month, at McBrides Emerald Lounge, Canton, Ohio. M. L. Willen, 4423 Tuscarawas St., Canton, Ohio, secretary.

Summit County Veterinary Medical Association, the last Tuesday of every month (except June, July, and August), at the Mayflower Hotel, Akron, Ohio. M. L. Scott, 42 W. Market St., Akron, Ohio, secretary-treasurer.

Tri-County Veterinary Medical Association, the fourth Wednesday of January, May, and September. Mrs. R. Slusher, Mason, Ohio, secretary-treasurer.

OKLAHOMA—Oklahoma County Veterinary Medical Association, the second Wednesday of every month, 7:30 p.m., Patrick's Foods Cafe, 1016 N.W. 23rd St., Oklahoma City. Claude A. Tigert, 3032 N.W. 68th St., Oklahoma City, Okla., secretary.

Tulsa Veterinary Medical Association, the third Thursday of each month at the City-County Health Building, 4616 E. 15th St., Tulsa, Okla. Arlen D. Hill, 5302 E. 11th St., Tulsa, Okla., secretary.

Tulsa Association of Small Animal Veterinarians, first and third Mondays, City-County Health Dept. T. E. Messler, 3104 E. 51st St., Tulsa, Okla., secretary.

OREGON—Portland Veterinary Medical Association, the second Tuesday of each month, at 7:30 p.m. Ireland's Restaurant, Lloyds, 718 N.E. 12th Ave., Portland. Donald L. Moyer, 8415 S.E. McLoughlin Blvd., Portland 2, Ore., secretary.

Willamette Veterinary Medical Association, the third Tuesday of each month, except July and August, at the Marion Hotel, Salem. Robert J. Mallorie, P.O. Box 155, Silverton, Ore., secretary.

PENNSYLVANIA—Keystone Veterinary Medical Association, the fourth Wednesday of each month at the University of Pennsylvania School of Veterinary Medicine. Raymond C. Snyder, N.E. Corner 47th St. and Hazel Ave., Philadelphia 43, Pa., secretary.

Lehigh Valley Veterinary Medical Association, the first Thursday of each month. Stewart Rockwell, 10th and Chestnut Sts., Emmaus, Pa., secretary.

Pennsylvania Northern Tier Veterinary Medical Association, the third Wednesday of each odd numbered month. R. L. Michel, Troy, Pa., secretary.

SOUTH CAROLINA—Piedmont Veterinary Medical Association, the third Wednesday of each month at the Fairforest Hotel, Union, S. Car. Worth Lanier, York, S. Car., secretary.

Georgia-Carolina Veterinary Medical Association—see GEORGIA.

TEXAS—Coastal Bend Veterinary Association, the second Wednesday of each month. Jack E. Habluetzel, Route 1, Box 65-N, Ingleside, Texas, secretary.

Dallas County Veterinary Medical Association, the first Tuesday of each month at 7:30 p.m., at a place to be specified. Frank N. Black, 12830 Preston Rd., Dallas, Texas, corresponding secretary.

UTAH—Salt Lake Small Animal Hospital Association, the first Monday of every month, at the Holiday Inn, 3040 South State St., Salt Lake City, at 12:15 p. m. Douglas H. McKelvie, 1220 S. State St., Salt Lake City, Utah, secretary-treasurer.

VIRGINIA—Central Virginia Veterinary Association, the second Thursday of each month at 8:00 p. m., except July and August, at a place in Richmond to be announced monthly. Edwin M. Crawford, secretary-treasurer.

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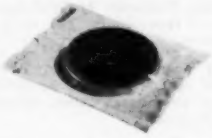

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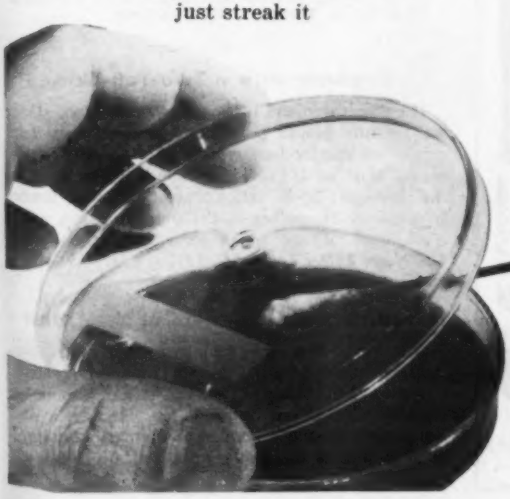

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Northern Virginia Veterinary Conference Association, the second Tuesday of each month. T. P. Koudelka, P.O. Box 694, Harrisonburg, Va., secretary.

Northern Virginia Veterinary Society, the second Wednesday of every third month. Meeting place announced by letter. H. C. Newman, Box 145, Merrifield, secretary.

Southwestern Virginia Veterinary Medical Association, the first Thursday of each month. D. F. Watson, Blacksburg, secretary.

WASHINGTON—Seattle Veterinary Medical Association, the third Monday of each month, Magnolia American Legion Hall, 2870 32nd W., Seattle. Roy C. Toole, 10415 Main St., Bellevue, secretary.

South Puget Sound Veterinary Association, the second Thursday of each month except July and August. B. D. Benedictson, 3712 Plummer St., Olympia, Wash., secretary.

WEST VIRGINIA—Kyowva (Ky., Ohio, W. Va.) Veterinary Medical Association, the third Thursday of each month in the Hotel Pritchard, Huntington, W. Va., at 8:30 p.m. Harry J. Fallon, 200 5th St., W. Huntington, W. Va., secretary.

WISCONSIN—Central Wisconsin Veterinary Medical Association, the second Tuesday of each quarter (March, June, Sept., Dec.) C. R. Carlson, 1109 E. LaSalle Ave., Barron, Wis., secretary.

Coulee Region Veterinary Medical Association, the third Wednesday of every other month. F. N. Petersen, Box 127, Cashton, Wis., secretary.

Dane County Veterinary Medical Association, the second Thursday of each month. Dr. E. P. Pope, 409 Farley Ave., Madison, Wis., secretary.

Milwaukee Veterinary Medical Association, the third Tuesday of each month, at the Half-Way House, Blue Mound Rd. Dr. Jordan Lewis, Menomonee Falls, Wis., secretary-treasurer.

Northeastern Wisconsin Veterinary Medical Association, the third Wednesday in April. William Madson, 218 E. Washington St., Appleton, Wis., secretary.

Rock Valley Veterinary Medical Association, the first Wednesday of each month. L. C. Allenstein, 209 S. Taft St., Whitewater, Wis., secretary.

Southeastern Veterinary Medical Association, the third Thursday of each month. John R. Curtis, 419 Cook St., Portage, Wis., secretary.

Wisconsin Valley Veterinary Medical Association, the second Tuesday of every other month. John B. Fleming, 209 E. 4th St., Marshfield, Wis., secretary.

Elephant with a Two-Ton Skin

The Smithsonian Institute, Washington, D.C., has recently placed on exhibition the largest land animal of the modern world. It is an African elephant, shot in 1955, which stands 13 ft. 2 in. at the shoulder; 20 in. taller than the famous Jumbo. It required 24 natives to lift the 2-ton skin, and a truck load of salt to preserve it in the field.—*Sci. News Letter (March 4, 1959): 184.*

Predators and Survival of the Fittest

Big fish strike the minnow on a hook even though many small fish are swimming about. Crippled fish dropped among large schools are likewise singled out by predators. There is a similar pattern among all types of animals, thus predators eliminate diseased and genetically weak animals.—*Sci. News Letter (March 14, 1959): 169.*

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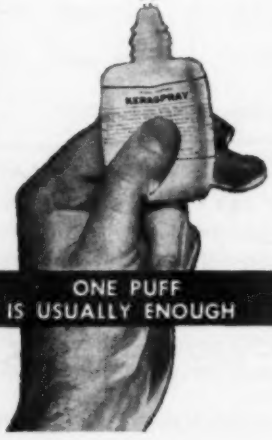

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Map of the
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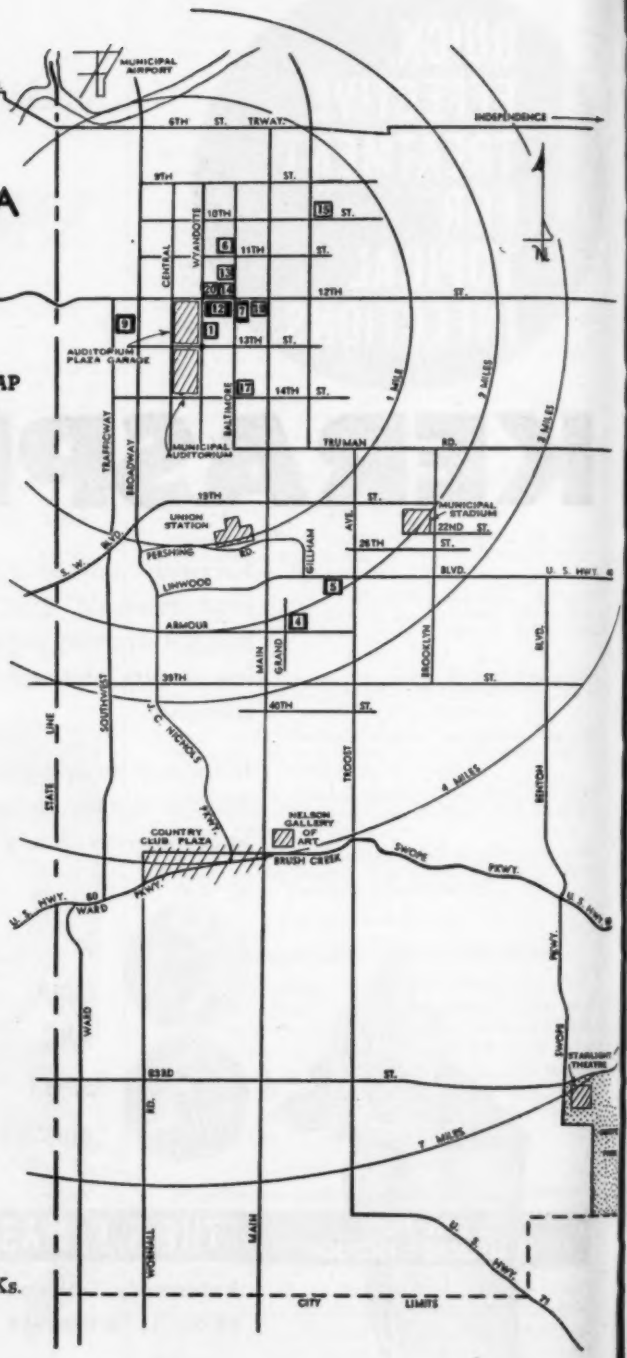
HOTEL LIST AND DOWNTOWN MAP

NO.	HOTEL
1	Aladdin, 1213 Wyandotte
4	Bellerive, 214 East Armour Blvd.
5	Berkshire, 1021 E. Linwood
6	Continental, 11th & Baltimore
7	Dixon, 12th & Baltimore
9	Kansas Citian, 1216 Broadway
12	Muehlebach, 12th & Baltimore
13	New Yorker, 1114 Baltimore
14	Phillips, 12th & Baltimore
15	Pickwick, 10th & McGee
17	President, 14th & Baltimore
19	Senator, 17 W. 12th St.
20	State, 12th & Wyandotte
21	Town House, 7th and State, Kansas City, Ks.



HOTEL INFORMATION — KANSAS CITY, MO., CONVENTION

Ninety-Sixth Annual AVMA Meeting, Aug. 23-27, 1959

All requests for hotel accommodations will be handled by a Housing Bureau in cooperation with the Committee on Local Arrangements. The Bureau will clear all requests and confirm reservations.

Hotel and Rate Schedule

Map No.	Hotel	Single	Double	Twin	Suite
1.	Aladdin*	$4.50-8.50	$ 6.50-10.50	$ 9.50-12.00	$17.00-30.00
4.	Bellerive*	5.00-9.00	8.00-12.00	9.00-13.00	From $18.00
5.	Berkshire*	5.00-7.00	7.00-10.00	8.50-10.00	From $14.00
6.	Continental*	6.50-11.00	8.50-13.50	10.00-14.00	$20.00-32.00
7.	Dixon	4.50-7.00	6.50-9.00	8.00-12.00	- - - - - - -
9.	Kansas Citian	3.50-8.00	5.50-11.00	7.00-14.00	From $10.00
12.	Muehlebach*	Headquarters Hotel — No Room Accommodations			
13.	New Yorker	5.50-12.00	8.00-14.00	9.50-14.00	$23.00
14.	Phillips*	7.50-10.50	9.50-13.00	11.50-14.00	$20.50-35.00
15.	Pickwick*	5.85-10.85	6.35-10.85	8.35-12.50	From $14.00
17.	President*	6.50-10.00	9.50-13.00	11.00-15.00	$25.00
19.	Senator	3.50-7.00	5.00-10.00	6.00-10.00	$15.00
20.	State	4.75-6.50	7.50-8.75	8.75-9.25	- - - - - - -
21.	Town House*	5.50-12.00	10.00-13.50	11.00-16.00	From $23.00

*100 per cent air-conditioned; in other hotels listed, majority of rooms air-conditioned.

FAMILY PLAN—The above hotels offer a "family plan" whereby children under 14 years of age will be accommodated in the same room with their parents at no extra charge. If more than one room is required to accommodate children, the hotel will charge only the single rate for each room.

MOTELS—Reservations for motels in the Kansas City area may be made through the Kansas City Convention and Visitors Bureau, 1030 Baltimore Ave., Third Floor, Kansas City 5, Missouri.

PLEASE USE APPLICATION ON REVERSE SIDE FOR HOTEL ACCOMMODATIONS

Application for Hotel Accommodations

1959 AVMA Convention — Kansas City, Missouri

The Convention and Visitors Bureau will make every effort to place you according to your expressed wishes, or to best advantage elsewhere if that is not possible and you desire us to do so.

Please give us the complete information requested below. At least four choices of hotels, or more if you desire, are necessary. Arrange for double occupancy of rooms wherever possible; only a limited number of single rooms is available.

Date.....

Please make hotel reservation in accordance with the following:
Accommodations desired:

Hotel.....First Choice

Hotel.....Second Choice

Hotel.....Third Choice

Hotel.....Fourth Choice

.....Room WITH bath for one person Rate per room desired $..... to $.....

.....Room WITH bath for two persons (double bed) Rate per room desired $..... to $.....

.....Room WITH bath for two persons (twin beds) Rate per room desired $..... to $.....

.....Large room WITH bath for..... persons Rate per room desired $..... to $.....

.....Suite—Parlor, ...Bedroom(s) with bath for ..... persons. Rate per suite desired $.....

Arrival date....., hour.....A. M. .....P. M.
Departure date.....

If reservation cannot be made in one of the hotels indicated shall we place you elsewhere? Yes..... No.....

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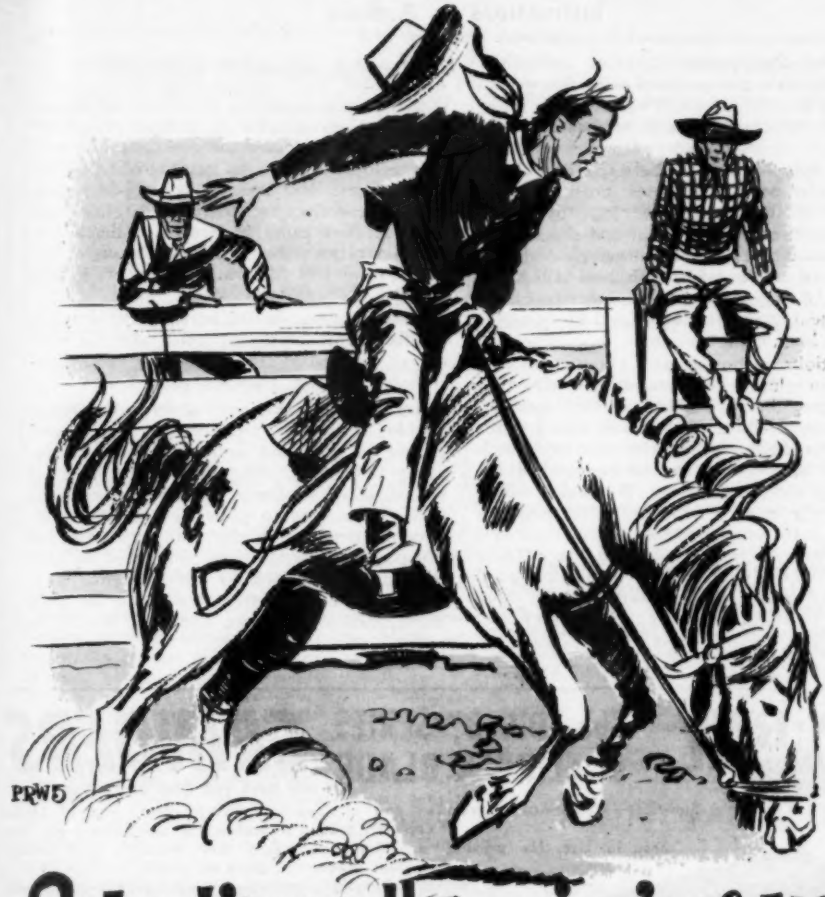
Name .....

Street address .....

City ..... State .....

Mail to: Convention and Visitors Bureau, 1030 Baltimore Ave., Kansas City 5, Mo.



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JOURNAL of the AVMA

Exclusive Publication.—Articles submitted for publication are accepted with the understanding that they are not submitted to other journals, which is ethical publication procedure.

Manuscripts.—Manuscripts, including **footnotes, references,** and **tables,** must be typewritten, **double-spaced,** on 8½- by 11-in. bond paper, and the original and one carbon copy, submitted. One-inch margins should be allowed on the sides, with 2 in. at top and bottom. Articles should be concise. Short, simple sentences are clearer and more forceful than long, complex ones.

Illustrations.—Photographs should be furnished in glossy prints, and of a size that will fit into the JOURNAL of the American Veterinary Medical Association with a minimum of reduction. Photomicrographs which can not be reduced should be marked for cropping to 1-column or 2-column width. Identifying marks within the photomicrographs, such as arrows, letters, or numbers, should be clearly marked with black India ink or white opaque ink to insure good contrast for reproduction and must be large enough to stand reduction, if necessary.

Drawings, graphs, and charts should be made clearly and accurately in India ink on white paper and a glossy print of them submitted when possible. Numbers or letters appearing on graphs or charts should be large enough to allow for any reduction necessary for the chart or graph to fit JOURNAL pages. Blue lines in graph paper drop out in reproduction; therefore, if lines are required they must be drawn in black ink. All illustrations should bear the name of the author and the illustration number on the back.

Tables.—Tables should be simple and typed **double space.** Complex tables are not conducive to perusal. It is wiser to summarize complex material than to tabulate it.

References.—References should be typed **double space,** in alphabetical order, and should be prepared in the following style: name of author, title of article, name of periodical with volume, year, and page numbers. References to journals not commonly known should give the complete name of the periodical, and where published so that they may be added to our reference files. When books are cited, the name of publisher, location, edition, and year should be given.

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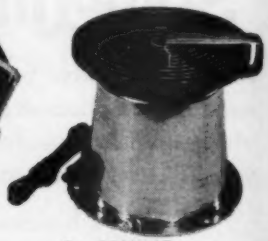

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Names of classified advertisers using key letters can not be supplied. Address your reply to the box number, c/o JOURNAL of the AVMA, 600 S. Michigan Ave., Chicago 5, Ill., and it will be sent to the advertiser.

Wanted—Veterinarians

Relief veterinarian to operate small animal practice in Philadelphia, Pa., for the month of August. Apartment available. Address Box K 26, JOURNAL of the AVMA.

Veterinarian wanted as associate in large animal practice in central Alberta, Canada. Opportunity to take over practice in one to two years. Some real estate involved. Write giving full particulars of previous engagements, age, initial minimum salary expected, etc. Position open immediately. No provincial board examinations required in Alberta for graduates from Canadian, U.S., and British colleges. Address Box L 8, JOURNAL of the AVMA.

Veterinarian to manage small animal practice exclusively. Will be on own. Large Midwest town. Address Box L 9, JOURNAL of the AVMA.

Responsible and mature veterinarian wanted for position leading to permanent association in large and small animal practice in central Iowa. Have complete small animal hospital and kennels. Address Box L 10, JOURNAL of the AVMA.

Assistant veterinarian for A.A.H.A. hospital in Chicago suburb. Address Box L 11, JOURNAL of the AVMA.

Wanted—recent graduate for growing suburban small animal hospital. Draftable or part time considered. Morton Grove Animal Hospital, 9128 Waukegan Rd., Morton Grove, Ill.

Veterinarian to do large animal work, 90 per cent cattle practice, including artificial insemination. Medicine, supplies, and car furnished. Dr. R. E. Horton, Elmer, N.J.

Wanted—Positions

Veterinarian desires position with small animal practitioner in Virginia. Would consider eventual partnership or purchase. Address Box L 2, JOURNAL of the AVMA.

Wanted—position in small animal hospital in Ohio or states eastward leading to permanent future. Energetic Ohio graduate, experienced in A.A.H.A. hospitals, 30 years of age, married, with military obligation completed. Dr. W. Harold Davis, 18 Chestnut St., Naugatuck, Conn. Tel: PArk 9-5321.

Veterinarian's assistant—will consider any location. Woman, age 43, several years experience veterinary hospitals, 20 years raising and breeding Boxers, wants position with veterinarian, can live on premises if necessary. Mrs. Cecil G. Cross, Box 257, c/o Wayman, So. Ft. Mitchell, Ky.

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For sale—small animal practice, Maryland license required. Address Box K 7, JOURNAL of the AVMA.

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For sale—modern, equipped hospital, Florida coastal city, 40,000 drawing. $40,000 yearly gross. Adjoining pet and pet supply shop grossing additional $5,000 a year. Selling due to ill health. $50,000 total, less than one-third down, excellent opportunity for veterinarian desiring to get ahead. Address Box K 34, JOURNAL of the AVMA.

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For sale—established, fully equipped small animal practice in Maryland. Desirable location on busy main highway. Comfortable home adjoins hospital. Address Box L 5, JOURNAL of the AVMA.

Illinois general practice, established 20 years, gross $25,000 to $35,000. Price: $26,000. Includes 8-room house, 2-room office, and 2-car garage combined. Cages, equipment, office furniture, drugs and vaccines. $6,500 to handle. Address Box L 6, JOURNAL of the AVMA.

Leasing or selling—growing mixed practice in progressive Virginia community. Attractive hospital and apartment included. Reasonable terms to qualified applicant. Give details regarding experience, family status, references, etc. Address Box L 7, JOURNAL of the AVMA.

For rent—veterinary hospital, past 22 years, partially equipped, air-conditioned. Immediate use. Heat and water included, ideal location. Write or phone E. P. Dunn, 305 Denison Bldg., Syracuse 2, N.Y. Tel. HA 2-4148.

For lease—building suitable for veterinary hospital, 30-dog capacity. Second floor apartment and 20-acre suburban tract, 150-dog boarding capacity; pet cemetery, two residences. Write Mrs. D. S. Prugh, 309 Dellwood Ave., Dayton 9, Ohio.

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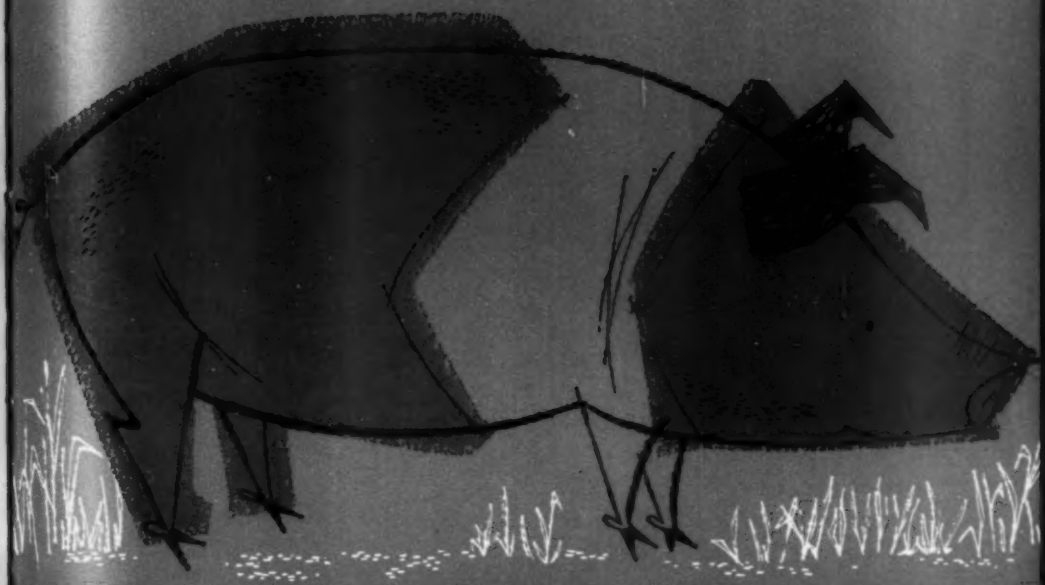

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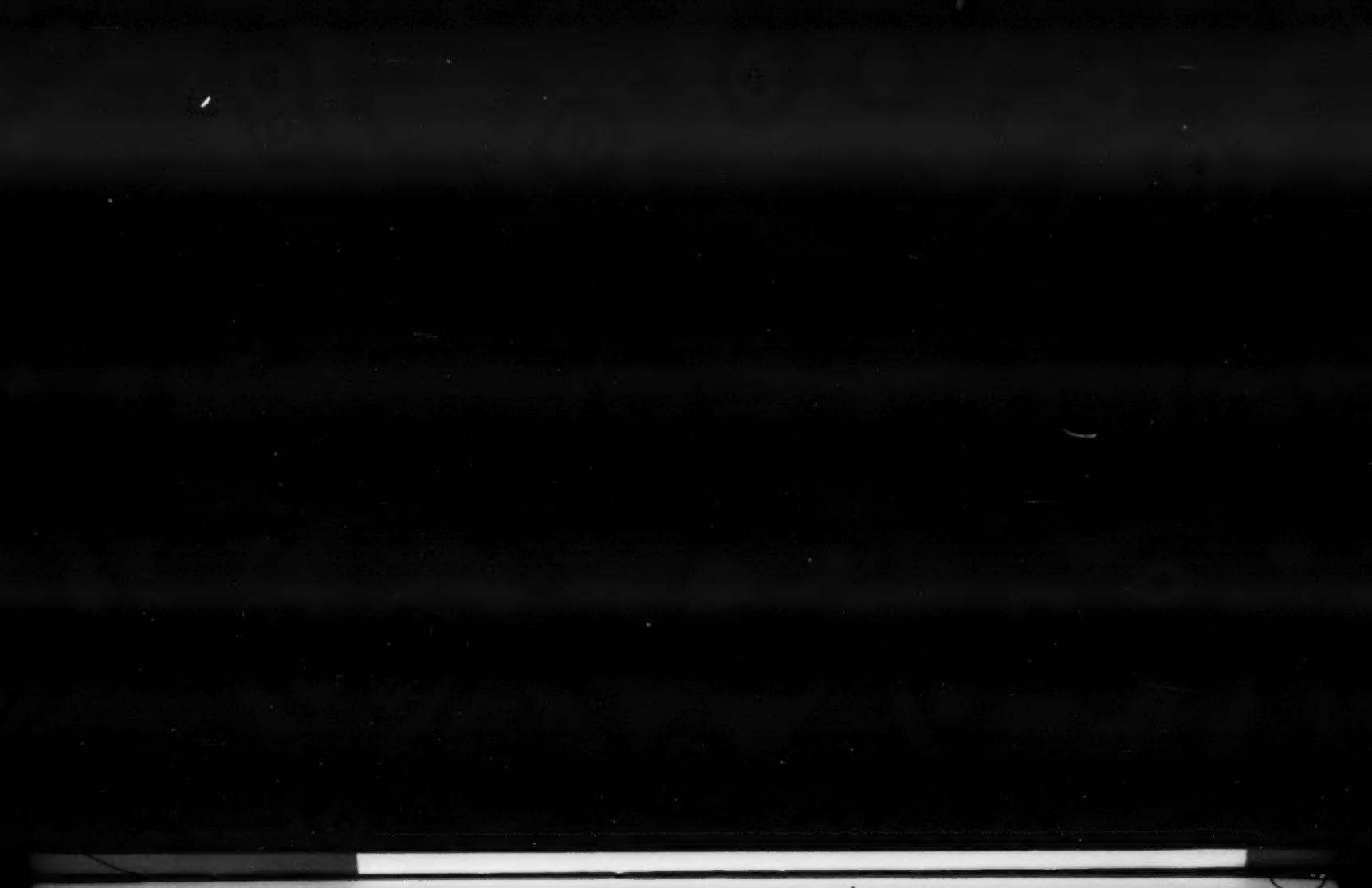
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